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# **NINETY-SEVENTH ANNUAL REPORT**

of the

# **DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL**

of

## **SOUTH CAROLINA**

Formerly the  
State Board of Health  
and

S. C. Pollution Control Authority

For The Period Beginning July 1, 1975  
And Ending June 30, 1976

Printed Under the Direction of the  
State Budget and Control Board

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## LETTER OF TRANSMITTAL

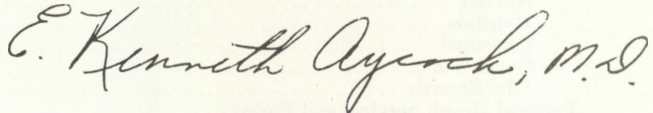
September 16, 1976

The Honorable James B. Edwards  
Governor of the State of South Carolina  
Columbia, South Carolina

Dear Governor Edwards:

I have the honor to submit to you the accompanying report of the Department of Health and Environmental Control for the fiscal year ended June 30, 1976.

Respectfully yours,

A handwritten signature in dark ink, reading "E. Kenneth Aycock, M.D." in a cursive script.

E. Kenneth Aycock, M.D., M.P.H.  
Commissioner



## INTRODUCTION

Health has been defined by the World Health Organization as "a state of complete physical, mental and social well being and not merely the absence of disease or infirmity." Through programs in environmental protection and personal health (early disease detection, prevention, diagnosis and treatment), the Department of Health and Environmental Control works to promote the best possible individual and community health and well being.

Because each program has stated objectives and a step-phased plan, the state and its citizens are more assured of the fullest possible return from each dollar spent for public health and environmental protection.

In the interest of brevity and economy, this report gives only a concise accounting of program activities. More detailed statistics are available in the various units within the agency.

## BRIEF HISTORY AND STATUTORY AUTHORITY

The Department of Health and Environmental Control was created in 1973 by the General Assembly through an act which merged the State Board of Health (created in 1878) and the Pollution Control Authority (created in 1970).

The Department operates under the supervision of the Board of Health and Environmental Control, which has seven members — one from each congressional district and one at large — appointed by the Governor. The Board is empowered to make, adopt, promulgate, and enforce reasonable rules and regulations for the promotion of the public health and the abatement, control and prevention of pollution.

The office of Commissioner, who is executive head of the agency, was created by the same act establishing the new department. This office replaces that of the State Health Officer which was created by the General Assembly in 1908.

The Department of Health and Environmental Control is the sole advisor to the State in matters pertaining to the public health and has the authority to abate, control and prevent pollution. Statutory authority for the agency is primarily provided in Titles 32 (section 0.1-905.17 & 1105-1526.13) and 63 (sections 195-195.36) of the *S. C. Code, 1962*, as amended.



## GOVERNOR



## BOARD OF HEALTH AND ENVIRONMENTAL CONTROL

<i>Members</i>	<i>City of Residence</i>	<i>Term Expiration and District</i>
Lachlan L. Hyatt, Chairman	Spartanburg	6/30/77 4th District
William M. Wilson, Vice-Chairman	Camden	6/30/77 5th District
I. DeQuincey Newman, Secretary	Columbia	6/30/77 2nd District
W. A. Barnette, Jr.	Greenwood	6/30/75 3rd District
Leonard W. Douglas, M.D.	Belton	6/30/77 Member-At-Large
J. Lorin Mason, Jr., M.D.	Florence	6/30/79 6th District
William C. Moore, Jr., D.M.D.	Charleston	6/30/79 1st District

## ENABLING LEGISLATION

The following legislation affecting the agency was passed by the General Assembly in FY 1976.

<i>Bill Desig. No.</i>	<i>Synopsis</i>
H. 4193, R. 799	Fraudulent Obtaining of Drugs, to include certain devices.
H. 4150, R. 841	Mass Immunization Projects, exemption from liability for gross negligence for physicians, nurses and public health employees.
H. 4107, Adopted	Concurrent Resolution for Approval of HEC Rules and Regulations.
H. 2420, R. 760	Coastal Zone Regulations and Regulatory Body.
S. 941, R. 791	Controlled Substances and Dangerous Drugs, to delete obsolete references and define "Peyote."
S. 904, R. 787	Adoption Proceedings, to modify duties of State Registrar and Clerks of Court.
S. 897, R. 773	State Safe Drinking Water Act.



- S. 654, R. 751      Provide certain health care facilities shall be subject to penalty for violating franchising and licensing regulations.
- S. 385, R. 754      Licensing of Adult Day Care Facilities.
- S. 7, R. 790        Establish State Register and require State Agencies to make certain publications in Register and approval of agencies' rules and regulations.

#### FY 1976 — RULES AND REGULATIONS FILED

August 26, 1975 — Amendment to Regulation 4, pertaining to the addition of the Thiophene Analog of Phencyclidine and Mecloqualone to Schedule I — Controlled Substances

December 16, 1975 — Regulation #11, Hypodermic Devices

February 27, 1976 — Amendment to Rules and Regulations Pertaining to Communicable Diseases

February 27, 1976 — Amendment to Regulation 4 Pertaining to Controlled Substances

April 19, 1976 — Amendment to Regulation 4: Controlled Substances

May 14, 1976 — Regulation 12: Minimum Standards for Licensing Intermediate Care Facilities — Mental Retardation — Providing Sleeping Accommodations for 15 Residents or Less

May 25, 1976 — Amendments to Minimum Standards for Licensing in South Carolina Intermediate Care Facilities

#### OFFICE OF THE COMMISSIONER

In operation of the Department of Health and Environmental Control, direct and supportive services are provided to all units of the agency by the Commissioner's office. The office is composed of the Assistant to the Commissioner for Executive Affairs, Public Information, Legal Counsel, Assistant Attorney General, Nursing, Program Management, Social Work, and Internal Audit. Office personnel participate on national as well as state and county government levels, establish and review agency policy, coordinate, plan and direct administrative functions. Of prime importance this office provides the leadership and catalyst to achieve the agency's sole purpose, i.e., improving the health and well being of the citizens of the state and as the advisor to the state in matters pertaining to public health and vested with the authority to abate, control and prevent pollution.

Notable accomplishments include, but are not limited to, the following:

1. Adoption of Agency Statement of Philosophy.
2. Development of an Agency Plan, program oriented and based on management by objectives.
3. Recruitment of a state epidemiologist and two district medical directors; the establishment of the offices of Deputy Commissioner for Health Affairs (which includes Epidemiology, Educational Resources, Health Measurement and Analysis) and Deputy Commissioner for Community Health Services (which includes District Management, Bureau of Maternal and Child Care, Bureau of Adult Health, and Home Health Services).
4. Provided loans to 13 medical and 6 dental applicants through the scholarship program administered by the Agency for the purpose of providing financial aid to these students agreeing to practice in a medical shortage area.
5. Finalization of construction contract of \$4,171,000 for new laboratory facilities to be located at State Park Health Facility.
6. Implementation of contract between DHEC and USC School of Public Health.
7. Continued efforts with State Medical Association, volunteer agencies, and physicians in the development of the Swine Influenza Mass Immunization Campaign.
8. Adoption and monitoring of agency Reduction-in-Force and Educational Leave policies.

## BUSINESS MANAGEMENT

*Mission:* To provide maximum quality of goods and services for all program areas consistent with competitive practices.

*Significant Activities:* The following actions were undertaken in order to improve the effectiveness and efficiency of the business management function within the agency: State Park Health Center non-medical operations were merged with those of business management; a policy and procedure for the operation of agency owned motor vehicles was developed; a decentralized copy machine system was implemented in the agency; business management was reorganized into a bureau composed of the divisions of Business Operations and Management Services; purchase order processing time was reduced from 14 days in FY 75 to 5 days in FY 76.

Vendor contracts increased from 30 in FY 75 to 68 in FY 76. The amount of inventory increased 17% over FY 75 and was valued at \$4,326,956 at the end of FY 76.



## COMPREHENSIVE HEALTH PLANNING

*Problem:* The providers of health care and the community leadership lack both the awareness of the health needs of the people of this state and the necessary coordination needed to identify and meet such needs.

*Objective:* To assure that all areawide Comprehensive Health Planning (CHP) agencies have completed a current comprehensive health plan by July 1, 1976.

*Narrative:* With the enactment of PL 93-641 the Secretary of the Department of Health, Education, and Welfare (DHEW), on the recommendation of the Governor of South Carolina, has designated health systems agencies in the state. The five Health Systems Agencies (HSAs) replaced the ten Comprehensive Health Planning (CHP) 314(b) agencies.

*Objective:* To obtain implementation of the goals and recommendations of the up-dated State Comprehensive Health Plan.

*Narrative:* The staff assisted in the development of the five HSAs which replaced the Comprehensive Health Planning Agencies. Each HSA has a board of 30 or more members. As was the case in CHP 314(b) agencies, the staff assisted in verifying occupations of prospective HSA board members to insure that consumers of services constitute a majority of the membership.

*Objective:* To attain positive impact throughout FY 76 upon all state and local legislation relative to health.

*Narrative:* On a day-to-day basis contact was maintained with Federal, State and local officials relative to health planning.

*Objective:* During FY 76 to give full and prompt review with recommendations to all projects within CHP review responsibilities to include:

- a. One hundred twenty-five (125) applications for changes in health facilities and services under Section 1122 or PL 92-603.
- b. Five hundred (500) A-95 reviews in cooperation with the Division of Administration of the Governor's office.
- c. Twenty-five (25) DHEW projects including 314(b) applications.

*Narrative:* These review responsibilities were performed principally by the Bureau of Health Facilities and Services and the Office of Program Management. Reviews were accomplished as follows: 55 changes in health facilities and services; 686 A-95 reviews; 60 DHEW projects.

*Objective:* To place 50 health trained veterans into health careers in the state in FY 76.

*Narrative:* The MEDIHC program was phased out in early 1976 due to the scarcity of veterans being discharged.

## DATA SYSTEMS MANAGEMENT

*Mission:* To provide all units of the agency with data management services (consultative, planning, developmental, and operational services) necessary to assist in the effective and efficient management of the agency.

*Significant Activities:* Several specific tasks were undertaken during the year, in addition to the normal support to units of the agency.

For the Child Health Program, a reporting system was implemented in three stages: (a) monthly reports by September 1, 1975; (b) semi-annual reports by February 1, 1976; and (c) annual reports at the close of the fiscal year.

The asset accounting system for State Park was completed as scheduled, replacing a system previously supported by a consulting firm under contract to State Park.

A modified Vital Records statistical reporting system, scheduled for implementation by March 1976, was deferred as a result of budget cuts.

Test and evaluation of data requirements have been completed for the Maternity reporting system, with data collection scheduled for July 1, 1976. (As subsequent reporting requirements are finalized, development of the system will continue through fiscal year 1977.)

The Home Health Services costing and statistical reporting systems were not developed. This system will be under development throughout the coming year.

The Time and Activity system for Bureau of Environmental Sanitation was restructured and integrated under a common planning system by May, 1976 as scheduled. This move consolidated reporting, and will result in lower operating cost to the user area.

A major undertaking was the completion of the processing of changes to birth records (1915-1975). Work has been completed with the exception of corrections and amendments which are projected for completion in the last half of 1976. This validated birth record file is available on the online system operated by the Vital Records Division.

A project control system designed for internal monitoring of effectiveness and efficiency of computerized services provided was delayed in fiscal year 1976.

The objective of providing 750 manhours per quarter of consultative and planning support (to the following areas: Commissioner's Office, Food Protection, Vital Records, Laboratory, Finance) was accomplished but incorporates only a portion of planning and consultative work provided at the request of the user area.



## EDUCATIONAL SERVICES

*Mission:* To provide overall direction and coordination to agency efforts in the field of health education, instructional media services, public information, and in-service training.

*Significant Activities:* In October 1975 a health education director was appointed to coordinate and plan the health education activities of the agency. Seven health education staff meetings were held and priorities were set for health education activities. A written annual health educational strategy statement was developed for each district. Three health educators were recruited for the districts.

Agency personnel coordinated four health conferences. Extensive planning and preparation took place for the Jewish Girls Conference "Growing Up and All That Jazz." The staff coordinated this conference for the Tree of Life Synod to present to the young girls in their community. The sixth annual Contemporary Problems Confronting Youth workshop was again sponsored jointly by the Bureau of Educational Resources, Bureau of Maternal and Child Care and the University of South Carolina. A second "Growing Up and All That Jazz" conference was coordinated in Catawba District and a conference for health educators at Camp Kinard.

Media and informational service activities are indicated below:

## ACTIVITIES AND SERVICES

<i>Type Service</i>	<i>Number</i>
Mini-courses developed .....	2
Slide/tape presentations produced .....	17
Public service announcements produced .....	12
16mm films produced .....	2
Health education publications produced .....	80
Color video tape productions .....	11
Printing impressions .....	7,808,025
B & W photo prints .....	4,184
Color slides processed .....	33,418
News releases distributed .....	226
Radio spot announcements .....	4
UPDATE magazine issues .....	4
Health & educational materials distributed .....	942,502
Films booked .....	7,394
Film showings .....	14,749
Number persons in attendance .....	391,306
Color prints processed .....	811

Changes in these activities from FY 75 generally reflect shifting priorities. However, the lower level of activity in the photo laboratory is the result of budget cuts and a more limited staff.



A total of ten training courses were developed, conducted and evaluated. These courses were presented 67 times and a total of 1,610 agency employees participated.

## EPIDEMIOLOGY

*Mission:* To investigate the causes of disease outbreaks in South Carolina and to recommend preventive measures. To serve as a center for communicable disease reporting.

*Significant Activities:* Continued publication of the Epidemiologic Notes and the report of the diseases in the state of South Carolina have been major functions of the Bureau in terms of communication with health deliverers in the state. Former immunization personnel have been reassigned as Epidemiologic Assistants in five of the districts to evaluate their usefulness in a broadened health role. Investigations of disease included foodborne disease outbreaks, rabies cases, salmonellosis, rubeola, hepatitis. No cases of rubeola were reported in the state in 1975.

The Division of Immunization and Prevention has a mission to raise the immunization levels of the preschool and school age population against the diseases of diphtheria, pertussis, tetanus, poliomyelitis, measles, rubella and mumps to a point of practical eradication and to develop a sensitive statewide surveillance system to detect disease as soon as possible after occurrence and to apply the appropriate control measures to interrupt transmission.

The major services to be provided are: (1) To monitor vaccine preventable disease surveillance. (2) To provide statewide epidemiologic support and mass campaign assistance to control the vaccine preventable diseases. (3) To provide technical consultation and evaluation of the compulsory school immunization law for school enterers to insure maximum immunization protection against the vaccine preventable diseases. (4) To accurately assess immunity level trends and to identify "high risk" population groups. (5) To assist in development and implementation of policies relating to immunization schedules and procedures.

The following activities were conducted in order to provide compliance with the school immunization law:

<i>Type Activity</i>	<i>No. Activities</i>
Kindergarten director visitations .....	145
Private physician visitations .....	288
School principal visitations .....	487
School superintendent visitations .....	80
School nurse contacts .....	190

Immunization surveys were conducted as follows: Public Day Care Facilities, Private Day Care Facilities, Two Year Old, and EPSDT. The table below summarizes the findings.

#### A COMPARATIVE SUMMARY OF PROTECTIVE IMMUNITY LEVELS

Immunization Status*	Private Day Care Survey Children Ages 1-5	Public Day Care Survey Children Ages 1-6	EPSDT Survey Prior to Screening Children 1-4	Two Year Old Survey 1974	S/A Survey Children 1-4
≥ 3 DTP	89.0%	92.7%	54.0%	77.6%	73.4%
≥ 3 Polio	83.5%	91.2%	51.0%	75.4%	63.1%
1 Measles	80.7%	92.2%	41.2%	75.3%	64.8%
1 Rubella	79.0%	92.2%	44.3%	74.4%	66.0%
1 Mumps	59.0%	62.3%	21.2%	69.4%	39.4%
Series Complete (excluding mumps)	72.0%	86.0%	25.3%	69.4%	

1. Private Day Care Survey — South Carolina — January 1975-March 1975
2. Public Day Care Survey — South Carolina — January 1976-March 1976
3. EPSDT Survey — South Carolina — December 1974-January 1975
4. S. C. Two Year Old Survey — South Carolina 1974
5. S/A Survey — Bureau of the Census 1974

(\*Immunization Status refers to those children who have received the minimum doses of vaccine, as recommended by the Advisory Committee on Immunization Practices, to have adequate antibody protection in the event of an exposure to the natural disease.)

The following table indicates the number of children seen in public health clinics with completed immunizations of the type specified.

#### NUMBER OF PERSONS WITH COMPLETED IMMUNIZATION BY TYPE OF IMMUNIZATION — FY 1976

Age Group	Polio	DTP	Measles	Rubella	Mumps
under 1 year	13,052	13,230	—	—	—
1-4	40,114	40,011	27,761	27,981	35,102
5-19	32,001	15,165	6,784	7,288	15,508
Total	85,167	68,406	34,545	35,269	50,610
% Change From FY 75	+129.7%	+46.4%	-11.4%	-13.6%	+64.2%

The succeeding table, for calendar year 1975, gives an indication of the numbers and types of reported communicable disease requiring continued surveillance, consultation services, and motivation to corrective action.



SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL  
COMMUNICABLE DISEASE MORBIDITY REPORT  
1975 CALENDAR YEAR

1975 Yearly Report	Infectious Hepatitis	Serum Hepatitis	Measles (Rubella)	German Measles (Rubella)	Mumps	Meningitis Aseptic	Meningococcal Infections	Pertussis	Influenza	Encephalitis Primary	Encephalitis Post-Infections	Typhoid	Salmonellosis Except Typhoid	Shigellosis	Strep Throat & Scarlet Fever
1975	529	75	0	773	78	63	40	9	3287	7	4	7	249	27	1869
1974	442	50	59	686	143	32	21	9	896	3	4	5	147	109	2920
County unknown	7					1				2					
ABBEVILLE				18			1								
AIKEN	2														
ALLENDALE					5										
ANDERSON	11	4				5	1	6	10				12	3	12
BAMBERG															1
BARNWELL	1														
BEAUFORT	20			1		1	1						5	1	
BERKELEY	10				1								1		
CALHOUN					8										
CHARLESTON	196	10		14		1	8		367				114	2	797
CHEROKEE	3														2
CHESTER	2			16		1						2	1		3
CHESTERFIELD	3													1	
CLARENDON		2										1	1		
COLLETON	2												1		
DARLINGTON	5	1													
DILLON	5					2	1						3	2	4
DORCHESTER	14														
EDGEFIELD	2	1													
FAIRFIELD													1		
FLORENCE	3	1		50	1							1	9	1	42
GEORGETOWN	3					1	2								
GREENVILLE	75	10		1	16	8	6		413	4		2	33	1	51
GREENWOOD	6	2			23	4			51				5	3	116
HAMPTON	1						1								
HORRY	7					4	2	1			1		8	1	23
JASPER													1		
KERSHAW	5	1		63					62					1	
LANCASTER	5	1		1	1				118				1	1	17
LAURENS	6	1			7	1			80						70
LEE	1														
LEXINGTON	16	1			3	5	1		27				6		27
MARION	1	3					1						3		
MARLBORO	1						1						1	2	
McCORMICK					2		3								35
NEWBERRY						1							2		
OCONEE	2	1				2	1						2		2
ORANGEBURG					3				1567				3		54
PICKENS	11					2	1	1	350				1		
RICHLAND	42	24		474*	6	9	2		11		1		21	4	82
SALUDA															24
SPARTANBURG	41	9		1	2	10	4	1	31		2	1	4	3	192
SUMTER	4	3		88		2	2						3		132
UNION	1														
WILLIAMSBURG						1	1								
YORK	15			46		2			200	1			7	1	183

\* 474 cases of rubella were reported by a military installation.



SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL  
COMMUNICABLE DISEASE MORBIDITY REPORT  
1975 CALENDAR YEAR — Continued

	Food Poisoning	Brucellosis	Tularemia	Rocky Mt. Spotted Fever	Typhus Fever	Tetanus	Diphtheria	Polio-myelitis	Chickenpox	Amoebiasis	*Gonorrhea	**Infectious Syphilis	Active Tuberculosis	Rheumatic Fever	Meningitis, Other
1975	0	3	2	85	0	2	0	0	794	3	21659	541	627	0	67
1974	0	1	0	56	0	4	0	0	1063	0	20737	690	641	1	55
Not Stated											45				
ABBEVILLE											83	2	1		
AIKEN				1							219	4	10		
ALLENDALE											120	1	4		
ANDERSON				13					16		990	7	14		2
BAMBERG											274	4	3		1
BARNWELL											148	4	3		
BEAUFORT				1							203	6	9		1
BERKELEY				2							145		9		
CALHOUN									2		88	1	2		1
CHARLESTON									458	1	3178	100	85		2
CHEROKEE				2							75		8		1
CHESTER									1		106		1		
CHESTERFIELD											92	9	7		
CLARENDON											236	2	9		
COLLETON											66	3	12		
DARLINGTON				1							131	25	28		
DILLON											308	3	15		1
DORCHESTER											145	3	7		
EDGEFIELD											78	4	4		
FAIRFIELD											85	1	5		
FLORENCE				1		1			3		774	20	45		
GEORGETOWN											53	1	10		
GREENVILLE		1		13					29		2976	70	25		29
GREENWOOD				4					176		252	22	5		1
HAMPTON						1					72	6	5		
HORRY				2							506	12	22		
JASPER											69	1	2		2
KERSHAW									3		226	8	5		
LANCASTER				1					12		237	3	2		
LAURENS				2					1		337	5	10		1
LEE									4		150	7	6		
LEXINGTON		1		2							353	11	12		
MARION											70		6		
MARLBORO											54	7	2		
McCORMICK				2					1		327	3	3		
NEWBERRY											146	1	7		
OCONEE									11		148	1	5		2
ORANGEBURG									69	1	1223	31	28		5
PICKENS											83	10	11		1
RICHLAND				3					2	1	4160	80	80		1
SALUDA											37		2		1
SPARTANBURG				19					4		783	16	44		11
SUMTER		1									901	37	26		1
UNION			2								35	2	4		3
WILLIAMSBURG											197	3	13		
YORK				16					2		685	5	11		

\* Excluding Military Gonorrhea — 2864

\*\* Excluding Military Syphilis — 26

## FINANCE

*Mission:* To support the fiscal policies of the agency and to exercise responsibility for the fiscal management of the agency.

*Significant Activities:* The Financial Management System (FMS), which was designed to provide financial information to management personnel at the division level and up, provided them with monthly reports. Training sessions were held with each deputy and his management staff to review and analyze the utilization of FMS reports.

Continued financial support was given to all units of the Agency. Periodic meetings were held with program fiscal managers to discuss budgeted amounts and related expenditures. With the FMS reports, program managers are able to do a more thorough job in monitoring the use of their funds.

Total expenditures for FY 76 follow:

## FINANCIAL EXPENDITURES

FY 76

*Expenditures from State Appropriations*

Dept. of Health & Environmental Control .....	\$25,009,403
State Park Health Center .....	3,309,720
Total .....	\$28,319,123

*Expenditures from Local Appropriations*

County Health Units .....	\$ 5,791,004
Maternity & Infant Care (Charleston) .....	25,000
Maternity & Infant Care (Greenville) .....	125,000
Total .....	\$ 5,941,004

Clinics & Other Specific Services (Fees) .....	\$ 1,844,058
--	--------------

*Federal Grants*

## Public Health Service

Planning Grant (314-A) .....	\$ 11,903
Program Funds (314-D) .....	1,010,528

## Children's Bureau

Crippled Children Program .....	1,561,880
Maternal & Child Health .....	3,415,702
Mental Retardation .....	26,462

## Environmental Protection Agency

Water Pollution Control .....	819,904
Air Pollution Control .....	377,398

Total Grants .....	\$ 7,223,777
--------------------	--------------



*Federal Projects & Contracts*

Highway Safety .....	22,336
Diabetic Detection .....	22,863
Pesticide Study .....	42,170
Cervical Cytological .....	73,984
Hospital Medical Facilities .....	45,252
Administration of Federal Projects .....	319,851
Migrant Health (Statewide) .....	146,279
Immunization .....	71,146
Maternal & Infant Care (Charleston) .....	2,766
Consumer Protection .....	2,560
Developmental Disabilities .....	2,885
Family Planning .....	2,901,184
Family Planning Training .....	40,939
Community Mental Health .....	1,410
Food Franchise Inspection .....	181
Water Plant Operations Training .....	12,396
Health Mobilization .....	461
Venereal Disease .....	181,388
Child Evaluation .....	692
Military Experience Directed into Health Careers (MEDIHC) .....	21,385
Home Bound Therapeutics .....	17,331
Addictions Project .....	30,079
Hypertension .....	28,328
Maternal & Infant Care (Pickens) .....	131,196
Dental Project .....	3,561
Occupational Safety & Health .....	148,643
Public Employment (CETA) .....	13,165
Solid Waste Disposal .....	54,903
Manpower Training (EPA) .....	18,642
Women, Infant & Children (Food Program) .....	3,899,787
Demonstration Hypertension Project .....	24,346
Venereal Disease Research .....	20,385
Emergency Medical Training .....	1,100
Home Health Service Training .....	5,076
Children & Youth .....	92,064
Student Intern Program .....	3,567
Emergency Medical Services .....	205,797
Medical Facilities Construction .....	3,766,705
Safe Drinking Water .....	4,465
SC Overland Flow .....	173
Emergency Medical Services (Appl.) .....	7,843
National Pollutant-System Training .....	25,449



Midwife Nurse Program .....	5,513
Total .....	\$12,420,246

*Social Security Administration*

Health Insurance Program .....	\$ 86,323
Medicare & Medicaid .....	5,011,372
Skilled Nursing Facilities .....	382,185
Section 1122 SSA .....	25,268
Total .....	\$ 5,505,148

GRAND TOTAL EXPENDITURES ..... \$61,253,356

## HEALTH FACILITIES AND SERVICES

*Problems:* Available funds must be administered with consideration for health care priorities.

Providers of health services sometimes propose facilities and services in areas where existing facilities are capable of providing needed services and without considering impact on other facilities.

Delays in the review process of health facilities construction plans can cause higher construction costs and delayed availability of the proposed needed services and/or facilities.

Approximately 200 health facilities must be surveyed annually to insure compliance with fire safety requirements.

Hospitals do not continuously meet required licensing standards.

Nursing care facilities do not continuously meet required licensing standards.

Hearing aid dealers do not continuously meet the requirements for notifying this agency of changes of address, furnishing required information about temporary permit holders under their supervision, and maintaining licensing standards.

Facilities wishing to participate in the Medicare and Medicaid programs do not continuously meet certification requirements.

Assurance that Hill-Burton facilities comply with the presumptive compliance option selected requires annual audit of their reports for a reasonable volume of "uncompensated services."

*Objective:* To administer the total available construction and loan funds for health facilities allocated to the state on the basis of need.

*Narrative:* Although \$2,024,046 in funds for health facilities were administered, only \$200,294 were Federal Construction Funds provided for FY 1976. The remaining \$1, 823,752 were State Health Care Extension Funds provided for eleven projects.

*Objective:* To assess need and issue or deny certificates of need where warranted.

*Narrative:* The Certification of Need for health facilities and services was administered in accordance with the State Hospital Construction and Franchising Act. Certificates of need were issued as follows:

TABLE I — CERTIFICATES OF NEED

Type Facility or Service	No. Issued	No. Exempted	No. Denied
Hospital Care .....	26	10	0
Nursing Care .....	24	0	3
Intermediate Care .....	9	0	0
Other .....	6	0	0
	65	10	3

Availability of beds in various facilities is indicated in Table II.

TABLE II — AVAILABILITY OF BEDS, BY TYPE FACILITY<sup>1</sup>

Type of Facility	No. of Beds Needed <sup>2</sup>	No. of Beds Conforming <sup>2</sup>	% of Need Met (Conforming) <sup>2</sup>
General Hospitals .....	3	11,306	3
Long-Term Care .....	8,615	4,775	55.4
Intermediate Care .....	3,961	1,549	39.1
Mental Facilities .....	6,711	1,450	21.6
Tuberculosis Hospitals .....	209	284	135.9
Rehabilitation .....	700	110	15.7

<sup>1</sup> No change from previous year due to revision of Federal Legislation and delay in receipt of implementation guidelines.

<sup>2</sup> Proposed Draft — FY 1976 Amendments to the South Carolina State Plan for Franchising, Construction and Modernization of Hospitals and Related Medical Facilities.

<sup>3</sup> Data not available at this time.

The availability of other health facilities and services is as follows:

TABLE III — AVAILABILITY OF OTHER HEALTH FACILITIES AND/OR SERVICES<sup>1</sup>

Type Facility	Total Needed <sup>2</sup>	No. Conforming <sup>2</sup>	% of Need Met Conforming <sup>2</sup>
Outpatient and Emergency .....	127	86	67.7
Rehabilitation .....	17	3	17.6
Public Health Centers (primary) .....	61	21	34.4
Public Health Centers (auxiliary) .....	169	52	30.8
Community Mental Health Facilities .....	19	12	63.2
Developmental Disabilities Facilities .....	2,424 <sup>3</sup>	1,601 <sup>3</sup>	66.05

<sup>1</sup> No change from previous year due to revision of Federal Legislation and delay in receipt of implementation guidelines.

<sup>2</sup> Proposed Draft FY 1976 Amendments to South Carolina State Plan for Franchising, Construction and Modernization of Hospital and Related Medical Facilities.

<sup>3</sup> 1974 Developmental Disabilities Plan (most current inventory) — no criteria — Total Facilities Available.

*Objective:* To insure that schematic and preliminary plans submitted for design review are processed within 14 days of receipt and that final plans are processed within 60 days.

*Narrative:* During the year 157 sets of drawings and specifications were reviewed for alterations, additions, and new construction of hospitals, nursing care facilities, public health centers, and mental health centers. Approximately 160 consultations were made to assist facility



personnel with design and planning problems. Of the preliminary plans, 88.3% were reviewed in 14 days and 100% of the final plans were reviewed in 60 days.

*Objective:* To survey approximately 200 health facilities for compliance with fire safety requirements.

*Narrative:* All hospitals and skilled nursing facilities electing to participate in Medicare and Medicaid programs were surveyed and met life fire safety standards. Follow-up visits were made to insure that recommended corrective actions to improve fire safety had been completed.

*Objectives:* By December 31, 1975 to license approximately 91 hospitals when in compliance with minimum licensing standards.

By June 30, 1976 to license approximately 144 nursing care facilities when in compliance with minimum licensing standards.

*Narrative:* Each hospital, nursing care and intermediate care facility was inspected and subsequently licensed. Mental hospitals, federally operated hospitals and those infirmaries maintained by privately owned educational institutions for the exclusive use of their student bodies are, however, not subject to licensing by this Agency. Licensing activities are indicated in Table IV.

TABLE IV — LICENSING ACTIVITIES

Type Facility	No. Inspected & Licensed
General Hospitals .....	75
Specialized Hospitals .....	1
Institutional General Hospitals .....	4
Institutional General Infirmaries .....	6
New General Hospitals .....	4
Class I Nursing Care Facilities .....	71
New Class I Nursing Care Facilities .....	3
Institutional Nursing Care Facilities .....	5
Institutional Minimum Nursing Care Facilities (State Owned) .....	2
Nursing Care Facilities (State Owned) .....	7
Intermediate Care Facilities (ICF) .....	25
New Intermediate Care Facilities .....	5
ICF Identifiable as part of a Nursing Care Facility .....	28
Institutional ICF .....	4
Acupuncture Clinics .....	4
	<hr/> 244

In addition to the annual licensing inspection of each health care facility, a program of inspections on an interim basis was carried out in those facilities where such inspections were warranted. In an effort to upgrade housekeeping practices, 94 environmental control in-service sessions were conducted. Such areas as laundry operation, and storage of clean and soiled linens, were covered. During the year 54 licensing follow-up inspections were made.

*Objective:* By January 30, 1976 to license all hearing aid dealers who meet requirements of the Hearing Aids Act. Issue temporary permits to

those who apply and meet requirements of the Hearing Aids Act.

*Narrative:* As of January 30, 1976, there were 76 licensed hearing aid dealers.

Two examinations to become eligible for licensure as a hearing aid dealer were administered during the year, with five of the 13 applicants successfully completing both the written and practical portions of the examinations.

*Objective:* To recommend/certify the approximately 207 licensed facilities electing to participate in the Medicare and Medicaid programs when in compliance with conditions of participation.

*Narrative:* Each hospital, skilled nursing, intermediate care and intermediate care/mental retarded facility, independent laboratory, home health agency and rehabilitation agency, desirous of participation was surveyed for certification purposes. Additionally, at least one follow-up visit was made to each facility in the year. These activities are indicated below:

TABLE V — CERTIFICATION ACTIVITIES

Type Facility	No. Facilities Surveyed	No. Facilities Certified
Hospitals .....	75	67
Skilled Nursing Facilities .....	81	57
Intermediate Care Facilities .....	54	46
Laboratories .....	15	23
Home Health Agencies (Independent) .....	2	2
Home Health Agencies (Subunits) .....	13	13
Intermediate Care/Mental Retarded .....	7	3
Rehabilitation Clinics .....	2	2
	<hr/> 249	<hr/> 213

The decrease in number of intermediate care facilities is due in some facilities being decertified and/or electing not to participate in the Title XIX program.

*Objective:* To assure that the presumptive compliance option selected for "uncompensated services" was implemented in approximately 108 health facilities partly financed with Federal Hill-Burton funds.

*Narrative:* Where health facilities are constructed in whole or part with Hill-Burton monies, federal requirements are that a level of uncompensated services be provided to persons who are unable to pay. In FY 76, \$64,603,842 of such services were provided. Three options are available to the facilities and the options selected are indicated in Table VI.



TABLE VI — UNCOMPENSATED SERVICES FOR PERSONS  
UNABLE TO PAY (HILL-BURTON)

Type Facility	No. Facilities	Option Selected		
		3%	10%	Open Door
Hospitals . . . . .	48	21	7	20
Nursing Care . . . . .	21	10	1	10
Rehabilitation . . . . .	6	—	—	6
Public Health Centers . . . . .	43	—	—	43
	118	31	8	79

Audits are made annually to insure compliance with the option selected.

### LABORATORIES

*Mission:* To provide adequate, accurate, and reliable laboratory services in support of the personal and environmental health delivery system of South Carolina.

*Significant Activities:* It was anticipated that the number of examinations performed in support of agency programs would increase by 20% during FY 76. However, the actual overall increase was 4.3%.

The total laboratory examinations performed are shown in Table I. The Gonorrhea Section received a total of 119,590 specimens (up 9% from FY 75) and the Mycology Section received 8.7% more specimens resulting in the increase shown in examinations in the table. The decrease (21%) in rubella serology is attributed to the continued incorporation of this procedure into private laboratories. All work on examination of mosquitoes for arboviruses was completed. The objective of examining 3,000 ticks for evidence of infection with the agent of Rocky Mountain Spotted Fever (RMSF) was 98% achieved.

Syphilis serology examinations decreased 5.6%. The continued trend of decreasing syphilis serologies in the State Health Department Laboratory can be attributed primarily to two factors: first, the training courses provided by the Bureau of Laboratories, Division of Laboratory Improvement and second, the availability of the simple RPR test procedure which is now being performed in many private laboratories and physicians' offices. The effect that charging physicians for this examination has had on the decreasing workload cannot be assessed. FTA-ABS examinations were essentially the same as the previous year.

For the first year since phenylketonuria examinations were performed, the number of examinations declined. This drop of 5.8% is undoubtedly a reflection of the declining birth rate in South Carolina.

In previous years, emphasis in the Sickle Cell Disease Program was placed on mass screening, but now the emphasis has shifted to education. Partly due to this shift, the hemoglobinopathy examinations decreased by 22%. The laboratory performed 23,881 examinations for these abnormalities this fiscal year, which may indicate the future



annual workload in this area. Approximately 20,000 examinations per year would be consistent with the birth rate of Blacks in South Carolina.

TABLE I — TOTAL LABORATORY EXAMINATIONS

Type of Examination	Central Lab	District Labs	Total Lab
Bacteriology .....	11,316	6,674	17,990
Gonorrhea .....	(147,105)	(91,879)	(238,984)
Cultures .....	147,022	88,913	235,935
Smears .....	83	2,966	3,049
Mycobacteriology .....	62,896		62,896
Mycology .....	27,528		27,528
Virology .....	(58,293)		(58,293)
Rubella Serology .....	34,099		34,099
Other Serology .....	9,929		9,929
Hepatitis Assoc. Antigen .....	399		399
Isolations .....	13,056		13,056
Rabies .....	810		810
Parasitology .....	21,116	109	21,225
Immunology .....	31,277		31,277
Syphilis Serology .....	191,256	33,701	224,957
Chromosome Analyses .....	73		73
Phenylketonuria .....	39,678		39,678
Hemoglobinopathies .....	23,881		23,881
Exfoliative Cytology .....	8,400		8,400
Hematology .....		71,151	71,151
Immunohematology .....		1,776	1,776
Clinical Chemistry .....		124,868	124,868
Urinalysis .....		67,397	67,397
Miscellaneous Clinical Tests .....		6,927	6,927
Dairy Products .....	39,522	19,390	58,912
Food .....	1,093	382	1,475
Toxicology (Drug Screen-Urine) .....	8,113		8,113
Special Chemistry (pesticides) .....	3,000	3,983	6,983
Heavy Metals (Blood leads) .....	21,763		21,763
Occupational Health .....	7,975		7,975
Totals .....	704,285	428,237	1,132,522

This is the first full 12-month reporting period for the Exfoliative Cytology Section. A total of 4,425 women were screened for genital cancer. Of these specimens examined, 49 were interpreted as being malignant or suspicious of cancer.

The State Park Health Center Laboratory performed 110,166 chemistry procedures on 11,226 specimens submitted from Early Disease Detection Clinics. The automated equipment presently being used allows us to meet the daily workload from all these clinics plus the workload from specimens from hospital patients. Total clinical chemistries, including the District Laboratories, increased 86.7%.

Toxicology drug screen requests have increased only 10% this past year. We are, however, experiencing a sharp increase in the number of requests for quantitative results. This increase is most noticeable in

requests for anti-convulsant blood levels. The capability to perform the analysis for anti-convulsants was just added to our laboratory this fiscal year. The workload in the Special Chemistry Section continues to grow. This Section experienced an increase in samples of 29% during the past year. No new routine procedures were begun this year.

The Third Edition of the manual of the Services of the Bureau of Laboratories was written and distributed to physicians and county health departments.

Each District Laboratory now performs quality control studies on every type of analysis according to a standard format developed by the Central Laboratory. Record-keeping is standardized and the majority of control materials are supplied by the Central Laboratory. This year, each District Laboratory was placed in the CDC Proficiency Testing Program as well as the program of the Bureau of Laboratories. Proficiency testing results will aid in maintaining the quality of laboratory diagnosis provided to the District Health Departments.

The Laboratory Improvement program was expanded during the year. Sixteen courses (ten more than planned) were held for laboratorians and six courses were given for non-laboratory agency personnel. Four hundred and ninety-five persons participated in 22 workshops. Approximately 55% of personnel time in this Division was utilized in the seven proficiency testing program areas. The two new areas of GC and TB were added to the program. The Division is now providing proficiency testing in rubella serology, parasitology, bacteriology, syphilis serology, gonorrhea bacteriology, mycology and mycobacteriology.

Training activities are summarized in Tables II and III.

TABLE II — BENCH TRAINING

Section	No. People	Total Trainee Days
Bacteriology .....	2	7
Mycology .....	3	8
Milk and Food .....	2	14
T.B. ....	4	2
Parasitology .....	1	1
Immunology .....	2	5
G.C. ....	1	1
Media .....	4	1
Serology .....	2	2
	<hr/> 21	<hr/> 41



TABLE III — PROFICIENCY TESTING

Specimen Shipments	No. Shipments Mailed	Total No. Participants	Total No. Specimens Shipped
Rubella Serology ..	4	9	180
Parasitology .....	4	68	1,360
Bacteriology .....	4	62	1,240
Syphilis Serology ..	6	104	6,240
N. gonorrhoeae ....	4	35	560
Mycology .....	4	26	416
T.B. ....	2	13	78
	28	317	10,074

The Division of Scientific Services provided support for the Bureau of Environmental Quality Control throughout the year.

During the year, specific tasks were to be undertaken in several areas. Most of these tasks were accomplished. The six interstate milk shippers' laboratories were surveyed as planned. Bureau personnel participated in three training sessions for sanitarians in an attempt to provide better food samples for examination. In reviewing our records, however, sufficient data was not available to determine the number of unsatisfactory samples submitted during the last fiscal year, so we could not realistically evaluate the effectiveness of the training. Accurate data on unsatisfactory samples is now being kept for future evaluation. The capability to perform analyses for anti-convulsant drugs was established and as mentioned above, the number of requests for this test has increased sharply. All foods submitted as suspect in food-borne illness were examined for pesticides as planned. The Heavy Metals Section developed an effective lead detection program which includes micro blood lead, erythrocyte protoporphyrin and hematocrit determinations. Over 4,000 specimens were examined.

Among the tasks not accomplished were the following. The planned additional examinations for certain metabolic diseases were not performed because the Bureau of Maternal and Child Care decided that greater returns would be received if the agency screened for hypothyroidism which has a higher incidence, rather than for other metabolic defects. When approved by the Board of Health and Environmental Control, this new activity will be instituted. The objective of performing 1,200 new examinations of dairy foods and bottled products was only 70.5% achieved due to technical difficulties in instituting the aflatoxin analyses. The plan to convert penicillin assay of milk products from the disc method to cylinder plate method was delayed due to a lack of availability of supplies. Because of a cut-back in funds, the testing of 1,000 blood samples from prenatal patients for hepatitis B antigen was

not undertaken. Lastly, the Department of Corrections cancelled the planned screening tests for abused drugs.

Promulgation of the rules and regulations for Laboratory Licensure is being held in abeyance until the pending Federal legislation is completed.

### MEDICAL LIBRARY

*Mission:* To provide the library resources and reference materials and services needed by the Agency's staff members.

*Significant Activities:* The librarian prepared research bibliographies, secured interlibrary loans and Medline searches upon request, circulated the xeroxed tables of contents of the 150 journals received in the Library to the professional staff, circulated resources to staff, and ordered, classified and cataloged books. The level of activity was above that of FY 75 in most areas.

### LIBRARY ACTIVITIES

Resources circulated to staff .....	2,380
Interlibrary loans secured .....	359
Additions classified and cataloged .....	156
Tables of contents xeroxed and sent to professional staff .....	822
Bibliographies compiled .....	9
Medline searches secured .....	7

The Library's holdings consist of 2,856 books (including government publications) and 1,757 bound journal volumes.

### NARCOTIC AND DRUG CONTROL

*Problem:* Drug abuse causes physical and psychological dependency and constitutes a major health and social malady of this country. Secondly, drug abuse contributes to other health problems such as serum hepatitis, malnutrition, and the spread of venereal disease through prostitution. Frequently criminal activity is a result of the abuser's need to finance his habit.

*Objective:* During FY 76 to maintain a zero rate of increase in the incidence of diversion or leakage to unauthorized persons of controlled substances attributed to poor control on the part of legal registrants or illegal acts.

*Narrative:* Selective enforcement procedures adopted in FY 1974 because of inadequate funding were continued in FY 1976 for the same reason. Increased effectiveness in inspection and audit procedures, increased actions against errant registrants, and increased educational



activities relating to physical security procedures required of registrants have continued to reduce the total quantity of drug diversion from legitimate sources through increasing the effectiveness of the closed distribution system at the registrant level.

The number of registrants of all types except pharmacies and distributors increased from the previous fiscal year. Inspections decreased from 557 in FY 75 to 465 in FY 76, due to budgetary restrictions and a transfer of effort within the Division to audits and investigations because of insufficient personnel to perform all assigned duties.

TABLE I — NUMBER OF REGISTRATIONS BY TYPE

Type of Registrant	Number of Registrants
Pharmacies .....	716
Physicians .....	3,302
Dentists .....	897
Veterinarians .....	206
Distributors .....	15
Manufacturers .....	5
Hospital/Clinics .....	197
Others .....	60
Total .....	5,398

As seen in Table II, the number of thefts from registrants, as well as the total quantity of oral controlled substances declined from the FY 75 totals, reversing a three year trend. This reduction is partially explained by an increased effort on the part of the Division to alert registrants to security problems, and efforts on the part of the registrants to reduce the quantities of controlled substances kept on hand. The installation of alarm systems and the arrest of several professional thieves apparently have had a collateral effect.

Although the number of inspections remain below desired and projected levels, additional audits were made during the year, and the overall result of the audit procedures, coupled with the decrease in thefts, the increase in prescription forgeries and the increase in administrative actions against registrants, indicate a significant movement toward closing the distribution system.

TABLE II — NUMBER OF THEFTS AND INDIVIDUAL DOSAGE UNITS BY TYPE REGISTRANT FY 73-FY 76

Type Registrant	Number				Individual Oral Dosage Unit			
	FY 73	FY 74	FY 75	FY 76	FY 73	FY 74	FY 75	FY 76
Pharmacy . . . . .	98	137	204	155	448,036	809,270	883,139	739,532
Physician . . . . .	7	22	25	12	9,125	7,220	68,390	11,552
Dentist . . . . .	0	5	3	0	0	1,213	1,321	0
Veterinarian . . . . .	2	4	5	4	410	2,260	550	5,100
Hospital/Clinic . . . . .	2	7	14	12	0	2,602	19,689	3,714
All Other . . . . .	1	3	5	6	288,484	2,603	4,640	55,500
Total . . . . .	110	178	256	189	746,055	825,168	977,729	815,398

## NURSING

*Mission:* To provide overall planning direction and coordination of nursing services.

*Significant Activities:* At the beginning of the fiscal year, several tasks were identified that were to be accomplished by joint efforts of the Central Office and District Nursing Staff. One such task called for the preparation of written standards in all areas of nursing service and practice that are within federal and state regulations. This work was initiated but not completed. A decision was made to adopt the standards established by the American Public Health Association — National League for Nursing (APHA-NLN) and work is progressing on the writing of practice standards covering major areas of service. Statewide accreditation by APHA-NLN will also be sought.

Career ladder options (clinical and functional) were established for various types and levels of nursing staff. The Program Nurse Consultant and Clinical Nurse Specialist positions demonstrate a commitment to quality patient care by the recognition of the need to have highly skilled professionals in both administration and direct care.

Site visits to all twelve districts were made for the purpose of evaluating and planning with the district personnel for nursing services.

A system for monitoring nurse time and activity and counting those patients not enrolled in programs and those patients seen outside of clinic was maintained. In addition to the nursing service provided through the clinics and the Home Health Service Program, the nursing staff provided 15,528 home visits to patients as well as an additional 47,321 telephone and office nursing consultations. Evaluation of the system was done at the end of six months and the fiscal year.

The evaluation tool developed to monitor the implementation of the Guidelines for the Utilization of the Nurse Practitioner in the South Carolina Department of Health and Environmental Control (DHEC) was used for the first time. It proved quite adequate for the purpose of monitoring.



Six regional problem solving sessions with the District Nursing Directors and Central Office nursing staff served to coordinate and standardize district nursing activities. The feedback and the minutes reflect a substantial amount of planning and dealing with timely and pertinent issues, one being the new roles in nursing needed to accomplish the job to be done in public health.

Two additional joint working agreements between the S. C. Departments of Mental Health (DMH) and Health and Environmental Control were initiated this past year. The office of nursing has, because of other constraints and demands on time this fiscal year, shifted some of the other areas to be worked on with DMH into next year's plan.

Training activities were conducted through the year. Specifically, the following was accomplished: six in-service programs geared towards total district nursing staffs were completed; 40 nurses completed the team leadership workshop; 57 Program Nurse Specialists completed a workshop in supervision; and 12 District Nursing Directors completed a workshop in Leadership and Management Skills. Each of the twelve Districts has developed an In-service Committee across program lines.

Providing field experience to Masters and Baccalaureate nursing students has continued the practice of cooperation of the agency in the educational preparation of nurses. It is felt that staff, students and patients benefit from this type experience.

A great deal of time this past year was spent in accomplishing the task of coordinating the agency wide effort of developing a single record system that would satisfy the needs and reflect quality care in all program areas. The Problem Oriented Method of data collection and charting has been adopted and a feasibility study of the total record system is scheduled. The records were tested and evaluated in two districts.

The mix of kinds of educational preparation reflects the different types of skills and levels of knowledge necessary to carry out the increasingly complex responsibilities in a health care delivery system — educational experiences are important measures of the adequacy of the nursing staff. As can be seen from the following table, a slight rise (from 19% to 20%) in the percentage of nurses prepared to practice public health nursing occurred. There was also an increase from 6% to 7% in the number of nurses with Practitioner skills. The numbers include District as well as Central Office nursing personnel. On January 1, 1975, the total nursing personnel employed by DHEC was 937. On January 1, 1976, there were 742 Registered Nurses, 82 Licensed Practical Nurses, 41 Community Health Aides and 25 Nursing Assistants for a total of 890, a decrease of 47 in the number of nursing personnel.

TABLE I — EDUCATIONAL PREPARATION OF REGISTERED NURSES EMPLOYED BY DHEC

	January 1, 1975	January 1, 1976
Percent with Graduate degrees .....	4%	4%
Percent with Baccalaureate degrees .....	19%	20%
Percent Qualified Nurse Practitioners .....	6%	7%
Percent with Diplomas .....	68%	65%
Percent with Associate degrees .....	9%	10%

Another continuing task has been to improve the nurse to population ratios of those employed by DHEC in all the health districts. The recommended national standard for providing generalized public health services is one nurse per 2,000 population. The following table reflects the nurses/population ratios by District in the state in ratio to the population. The overall distribution of nurses shows a change from last year. These statistics were gathered on January 1, 1976. The overall state total reflects a stable total number of registered nurses but a concurrent increase in state population. The increase in certain Districts in the number of registered nurses as opposed to the decrease in others reflects the various stages the Districts were in being affected by the freeze on employment.

TABLE II — REGISTERED NURSE\*-POPULATION RATIOS BY DISTRICTS

District	January 1, 1975			January 1, 1976		
	Estimated Population	No. R.N.'s	Ratio R.N./Pop.	Estimated Population	No. R.N.'s	Ratio R.N./Pop.
Appalachia I .....	155,500	34	1:4574	159,007	31	1:5129
Appalachia II .....	324,800	72	1:4511	337,063	56	1:6019
Appalachia III .....	256,100	55	1:4656	262,967	56	1:4696
Catawba .....	167,300	47	1:3560	170,553	50	1:3411
Central Midlands ...	398,400	70	1:5691	415,565	75	1:5541
Low Country .....	111,200	50	1:2224	112,161	43	1:2608
Lower Savannah ....	219,000	69	1:3174	228,667	73	1:3132
Pee Dee .....	269,000	96	1:2802	281,467	81	1:3475
Trident .....	353,400	77	1:4590	366,255	93	1:3938
Upper Savannah ....	159,800	36	1:4439	164,282	41	1:4007
Waccamaw .....	149,200	31	1:4813	156,269	43	1:3634
Wateree .....	162,300	59	1:2751	163,744	54	1:3032
Total .....	2,726,000	696	1:3917	2,818,000	696	1:4049

\* Employed by DHEC

## NUTRITION

*Mission:* To coordinate and/or provide information about clinical and public health nutrition of interest to Agency personnel and the public.

*Significant Activities:* During the year, eight nutrition information bulletins/pamphlets were generated: Relationship of Fat Content to Flavor and Nutritive Value of Milk; Weight Reduction for Early Teens;



Food Sources of Iron (revision); Suggestions for Using Spices, Herbs and Flavorings in Sodium Restricted Diets; two leaflets in the Personal Hygiene Series — K-5 and 6-Adult; two articles for the agency's publication UPDATE — You Are What You Eat (vitamins) and Greens and Grains.

In-service education was provided for all Nursing staff in Upper Savannah Health District and Maternal and Child Care Nursing staff in Waccamaw Health District.

Requests by other agencies and the public for nutritional information were responded to as follows: (1) The nutritionist continued to work closely with the Commission on Aging, Title VII Nutrition for the Elderly Program. Services included participation on teams to assess region programs, monitoring some programs and unannounced site visits. (2) In-service education was provided for Half-way House Directors of Commission on Alcohol and Drug Abuse, personnel of a Half-way House of Department of Mental Health, and Program Assistants of Lexington County Extension. (3) Consultation was provided to the Educational Television Center, Office of Instructional Television, for content and visuals of three nutritional lessons in the Health Series, Conrad.

Within the agency, consultation was provided to the Bureau of Home Health Services; the Bureau of Health Facilities and Services' Division of Certification; and the Bureau of Adult Health's Division of Early Disease Detection.

## PERSONNEL

*Mission:* To provide personnel services to all units of the agency and to conduct the internal personnel administration for the agency.

*Significant Activities:* Throughout the year the Personnel Division focused its attention on several planned tasks. One such task involved the conduct of two pre-retirement seminars. The enthusiasm and support that was shown toward the retirement seminar indicate that there is a need for and a requirement to provide this service on a continuing basis. The needs of the staff can be more adequately met if these seminars are continued in the areas where the need exists.

Another task was to provide an increase of applicants to the Merit System and thus to give this agency a wider range of choice of qualified individuals and to provide a greater number of minorities on the registers. Due to the current economic situation, the initial expectations in this area were greatly exceeded. Although we were somewhat restricted to the calibre of individuals who were making application, we did note that the Merit System, at the behest of this and other merit agencies, was able to present to the Merit System Council for consideration and approval, the principal of the "rule of ten" in selecting from the merit

lists. This, in effect, has enhanced our possibility of reaching minorities on the Merit Registers and has been of great assistance to us in implementing our Affirmative Action Plans.

All agency plans were reviewed, in conjunction with program personnel, to identify areas requiring personnel action. Following this, action was taken on the identified areas with the exception of two: one was deemed impractical in view of the economy and the other (that of creating a Director of Social Work at the district level) was to be implemented in the fourth quarter. The proposed implementation was not acceptable to the program and a series of meetings have been scheduled to resolve these differences and implement this needed change.

In reviewing the personnel plan for the cyclical audit of agency jobs, we were made aware of another pressing requirement; that of insuring that supervisors were aware of and properly executing the Performance Appraisal. Training in this area was very effective in improving the quality of the Performance Appraisal and served as an effective tool in stressing the requirement of cyclical audit of the position questionnaire (P.Q.). It was pointed out that a Performance Appraisal must, of necessity, include a review of the individual's job and responsibility which would, where applicable, require submission of an Updated P.Q. We propose to integrate this requirement for the review of the P.Q. by the supervisor/employee into the revised Performance Appraisal procedures. When required, the updated P.Q. will be submitted and reviewed by the Personnel Services Division and State Personnel Division thereby insuring that the position is properly classified. The staffing requirements for all positions will, of necessity, be reviewed quarterly in accordance with the procedures established by the Stevenson Report. The implementation of these changes will not alter the current procedure of job classification audits or providing staff audits where requested or necessitated by the operating area functions.

Steps were taken to insure prompt processing of position questionnaires. However, we have been hampered by the implementation of controls by the Budget and Control Board to obtain prior approval for the establishment of new positions and/or prior approval to fill existing vacant positions. To this end we have been generally successful in cases where reclassification was involved since no prior approval is required of the Budget and Control Board. We foresee no difficulty in implementing and adhering to this policy once the procedures exercised by the Budget and Control Board are relaxed to their pre-freeze level.

A comparison of the normal activities of the Division with those of the preceding fiscal year will, because of the economic situation, reflect a marked decrease in some activities and changes in others.



## PERSONNEL ACTIVITIES

Total Position Questionnaires (PQs) processed .....	680
PQs classified differently/rejected .....	52
Average turn-around time (days) .....	27
Reclassifications .....	30.28
New positions .....	18.27
Personnel actions processed .....	7,101
No. of employees at beginning of period .....	3,255
No. accessions during period .....	760
No. separations during period .....	695
No. of employees at end of period .....	3,320

## SOCIAL WORK

*Mission:* To coordinate all social work activities of the agency and to integrate social work services into appropriate components of the health planning and delivery system.

*Significant Activities:* Services to individuals and families were as follows:

No. of individuals served .....	12,500
No. of encounters (including home visits, clinic, office) .....	22,200
No. referrals to community agencies .....	6,185

The services of social workers in health were directed toward the identification and modification of social, psychological and environmental factors which contribute to health problems or influence the use of health services. Examples of problems affecting the health of individuals and families in which social workers are involved are those resulting from lack of knowledge and motivation regarding sound health practices; stresses arising from acute or chronic illness; families with multiple difficulties; financial insecurity; social or emotional stresses contributing to dependency, disability or delinquency; children-at-risk because of ill health; etc.

Peer audit of social work records has been initiated to examine quality of services provided.

A computerized reporting system was implemented during the year which is providing statistical data base for administrative and planning purposes.

A district director of social work was employed in the Upper Savannah District and the Pee Dee District during the year. Also, some additional staff was employed in the various program areas. Social work staff employed by the agency is as follows:

Type of Degree	Number
M.S.W. ....	47
B.A. ....	<u>12</u>
	59

Two graduate students of the USC College of Social Work were provided field placements in the Central Midlands District.

Two staff development workshops for social workers were conducted during the year.

Two social workers presented a paper on "Social Work in Public Health" at a national seminar.

### VITAL RECORDS

*Mission:* To collect baseline health related data on a routine basis by legal registration and statistical recording of vital events of birth, death, fetal death, marriage, divorce and annulment. To provide certification of these events upon request to the public at large.

*Significant Activities:* Verification of birth data entered in the computer file was 99.5% completed during FY 76 (a total of 2,520,123 documents). This accomplishment places the Division of Vital Records in a unique position nationwide of having all data captured in the computer to institute on-line inquiry, retrieval and certification of virtually any recorded birth event.

Microfilming of records fell short of the objective of 435,000 records, but 87% of these records were filmed during the year. This includes amendments and delayed birth certificates. The Division is now in a position to provide the county health departments with film or hard copies produced from film of these "supplemental records" to provide uniformity of their records with the state records, thus promoting acceptability of county issued birth certifications.

High standards of vital records registration were maintained during the year. Timeliness of birth registration improved by 6% during the first six months of FY 76. Timeliness of death registration improved 7% for the first six months of FY 76. For the second half of the year there was a 5% improvement in the timeliness of birth registration. For death registration, there was no change from the comparable period of FY 75. As a tool for maintaining and improving standards and timeliness of registration, quarterly district meetings with vital records personnel in the county health departments were held during the year. Contact was made with Deputy County Registrars, funeral directors, and medical records personnel from hospitals and nursing homes through these district meetings to promote awareness of the need of complete, accurate, and timely registration. In the same regard, a statewide, two-and-a-half day seminar was held for Deputy County Registrars at which



38 of the 46 counties were represented. Workshops in death registration procedures and birth registration procedures were a part of the seminar and program participants included representatives from the Registration Methods Branch of the National Center for Health Statistics, Charleston County Medical Examiner, two South Carolina funeral directors, a hospital administrator and medical records administrator who provided valuable input to this learning experience for improvement in our vital records registration system.

The agency continued to provide National Center for Health Statistics with data containing less than 2% input error. Concurrently the agency provided the National Center for Health Statistics with a 5% sample on birth and 100% of deaths, marriages and divorces.

The objective of installation of the microfiche certification system was not met. However, it is presently complete to the point that it is being utilized at the county health departments and the state office in preparing approximately 90% of the birth certificates. Each county health department has the capability to certify births in a manner that includes the state file number and updated information applied to original records. Usage of the microfiche system provides that birth certifications issued by the county health departments agree with the state office's information, thus, increasing acceptability of county issued certifications.

In January, 1976, a new tamper-proof birth card was implemented in the state office. Since that time twenty-five county health departments have also implemented use of the tamper-proof card. These twenty-five counties are using the microfiche certification system completely which is required before the new card is placed in their offices. The state office is continuing to instruct the remaining counties in proper usage of the system in order to place the new birth card in every county of the state. The tamper-proof card is shown in the U. S. Passport Agency's most recent publication as the official short form certification issued in the state of South Carolina and is the one acceptable for their purpose.

The full effect of the new microfiche certification system has not yet been determined since the system is not quite complete. At the present, however, it has been determined that time to process a request for a birth certificate has been reduced from five minutes to a minute-and-a-half. During the fiscal year while the system was in different stages of completeness, \$979.66 was saved in postage by over-the-counter service while the applicant waited. The number of personnel involved in the certification procedure has been reduced from 14 to 12 persons. This manpower reduction will continue as the system is completed.

During the year personnel of the Biostatistics Branch were organized into a separate Division. Their work, however, was part of the FY 76 Vital Records plan and is included below. Loss of staff and emphasis on

other activities within the agency resulted in non or partial completion of some of the proposed tasks for the year. Denominator data necessary for calculations of life tables was not available. Methodology for developing these data is expected to be completed in FY 77.

A magnetic tape containing data of nonconfidential nature of 1974 births and deaths has been complied for public access. Procedures and formats for requesting statistical services and disseminating statistical data were developed and implemented.

Computerization of annual vital statistics reports on an annual basis was not found to be possible.

Selected Vital Statistics Activities are shown in Table I.

A comparison of vital events for the last two calendar years is shown in Table II.

TABLE I — VITAL STATISTICS ACTIVITIES

	Number	Percent Change From FY 75
<i>Total Certificates Filed*</i> .....	(128,759)	- 2.3
Births .....	44,767	- 4.1
Deaths .....	22,962	- 3.9
Fetal Deaths .....	728	+ 3.7
Marriages .....	49,936	- 3.3
Divorces & Annulments .....	10,366	+16.8
<i>Total Records Queried</i> .....	(5,361)	+26.0
Births, Deaths, & Fetal Deaths .....	2,208	+26.8
Marriages .....	596	+38.9
Divorces & Annulments .....	2,557	+22.7
<i>Certification Services</i>		
Completed Requests .....	104,026	+ 1.0
Adoptions .....	1,943	- 6.7
Court Orders .....	1,200	-14.3
Legitimations .....	1,873	+ 8.6
Corrections .....	9,039	- 5.5
Delayed Certificates .....	4,604	+70.4

\* These figures are taken from monthly activity reports; therefore do not necessarily refer to current figures for events occurring in the specific period.



TABLE II — VITAL EVENTS, CY 75

	Number	Percent Change From CY 74	Rates <sup>1</sup>
Live Births .....	46,665	- 3.6	16.6
Premature Births .....	4,205	- 4.5	90.1
Illegitimate Births .....	9,242	+ 4.9	198.0
Deaths—All Causes .....	23,343	- 3.4	8.3
Fetal Deaths .....	653	-10.8	14.0
Neonatal Deaths .....	638	-12.2	13.7
Maternal Deaths .....	4	-60.0	0.9
Infant Deaths .....	897	-13.0	19.2
Marriages .....	50,249	- 5.2	17.8
Divorces and Annulments .....	9,671	+ 9.7	3.4

<sup>1</sup> 1974 live birth, death, marriage, and divorce and annulment rates per 1,000 estimated population. Rates for 1975 births, deaths, marriages, and divorces and annulments calculated per 1,000 provisional population estimates for 1975 (2,818,000) prepared by the Division of Research and Statistical Services.

Infant, neonatal, and fetal death rates per 1,000 live births. Premature and illegitimate birth rates per 1,000 live births. Maternal death rate per 10,000 live births.

### ADDICTIONS PROJECT

*Problem:* Based upon nationwide statistics, approximately 138 (about 40 have already been identified) of the Agency's 2,600 employees are affected by the use of substances, which in turn decreases their work performance. Additionally, an indeterminate number of employees' work performance is reduced by other personal problems. The dependency upon substances has reached alarming numbers in our state, with many health professionals not fully qualified to identify the substance dependent person.

*Objective:* To identify the estimated 98 remaining employees who are adversely affected by the use of substances.

*Narrative:* During the year a total of seventy employees were identified with problems affecting their work performance. This represents 71% of the objective set for the year. Failure to achieve more of the objective is a reflection, in part, of a continued reluctance on the part of supervisors to accept agency policy. Efforts continue to be made to correct misconceptions regarding the objectives of the project and to reassure supervisors that employees will experience no job loss by admitting the need for counseling and help.

*Objective:* To refer all identified suspected substance dependent employees to a helping resource (the Counseling and Referral Elective Center — C.A.R.E., the Area Mental Health Center, the Agency's Medical Advisor, or a private physician).

*Narrative:* Of the seventy identified, twenty-seven (39%) went for counseling. Others chose to make private efforts to deal with their problems without professional help.

*Objective:* To provide inservice education to an estimated 300 supervisors within the Agency, to include new supervisors, concerning their responsibilities in this project.

*Narrative:* The training of supervisors exceeded the objective by 27 largely because of the interest and cooperation of the Training Division and Personnel Division. Completion of this training by supervisors should help in the identification of employees with problems.

*Objective:* To conduct twelve seminars in order to increase the ability of doctors, nurses, other professionals, and paraprofessionals in the health field to identify and refer persons with substance dependencies.

*Narrative:* The number of seminars exceeded the objective by 10. This is also largely credited to the cooperative efforts of the Training and Personnel Divisions.

### CANCER CONTROL

*Problem:* Cancer is the second leading cause of death in the United States and South Carolina and a sizeable percentage of deaths are caused by failure to detect early, to treat, and to follow-up. Of the estimated 6,300 South Carolinians who will develop new cases of cancer in fiscal year 1976, 33% (2,079) will be medically indigent. Additionally an estimated 6,000 medically indigent patients will be carried forward from prior years; all will be in need of examination or treatment or follow-up depending on the case.

*Objective:* To provide comprehensive cancer services for 1,500 newly referred medically indigent patients, 300 for diagnostic services only.

*Narrative:* This objective was more than reached with a total of 1,784 new patients who were referred to cancer clinics. Of these, 1,716 were admitted for services. Forty percent were found to be non-malignant. Many of the non-malignant cases were physician referrals of patients with Class II and Class III pap smears.

TABLE I — CANCER CLINIC ACTIVITIES

No. new patients referred by physicians . . . . .	1,784
No. new patients admitted for services . . . . .	1,716
No. found to be non-malignant . . . . .	692
No. patient visits . . . . .	23,757
No. of outpatient services* . . . . .	40,530
No. of patients hospitalized . . . . .	819
Total hospital days . . . . .	5,910
Avg. no. of days hospitalized . . . . .	7
Avg. cost/hospital day . . . . .	\$135

(\* Includes x-ray, chemotherapy, etc.)



The number of patient visits increased and the out-patient services were 28% more than last fiscal year.

Again the average cost per hospital day was higher than in the previous year.

The status of newly reported cases by stage of the disease is indicated in Table II.

TABLE II — NEW REPORTED CASES  
BY STAGE OF DISEASE, CY 75

Stage at Diagnosis	Number	Percent
In-Situ . . . . .	135	2.6
Localized . . . . .	2,597	49.5
Regional . . . . .	1,477	28.1
Remote . . . . .	932	17.8
Unknown . . . . .	109	2.0
Total . . . . .	5,250	100.0

*Objective:* To provide follow-up services for 95% of the 30,000 cancer patients registered.

*Narrative:* On an overall basis this objective was not met, with the follow-up of private patients continuing to fall short of projections.

TABLE III — PATIENTS SERVED BY CANCER CLINICS

Location	Clinic	Private	Total
Anderson Memorial . . . . .	590	2,368	2,958
Baptist . . . . .	360	1,988	2,348
Greenville General . . . . .	570	4,167	4,737
Medical University . . . . .	1,948	534	2,482
McLeod Memorial . . . . .	986	1,410	2,396
Orangeburg Regional . . . . .	185	1,083	1,268
Richland Memorial . . . . .	879	1,062	1,941
Self Memorial . . . . .	82	1,160	1,242
Spartanburg General . . . . .	489	2,731	3,220
	6,089*	16,503	22,592

(\* Does not include 692 non-malignant patients seen.)

Clinic patients (old and new) with diagnosed cancer decreased slightly but the total number of patients seen increased when the non-malignant cases are added.

(FY 75 — 6,130 malignant + 587 non-malignant = 6,717)

(FY 76 — 6,089 malignant + 692 non-malignant = 6,781)

The private patients were followed through their physician and there is essentially no change.

## CHILD HEALTH SERVICES

*Problem:* There are an estimated 148,175 children, youth and adolescents in South Carolina eligible for and in need of public health services. An estimated two-thirds of these are not receiving services.

*Objectives:* During FY 76 to provide quality\* care, appropriate to age\*, to 56,968 children, youth, and adolescents (birth to 21 years of age) in South Carolina. Specifically, to serve the following number of patients in each component clinic:

EPSDT — 31,340

Child Health Clinic — 18,173

Pediatric Clinic — 11,932

Child Evaluation Clinic — 250

*Narrative:* With exception of the Child Evaluation Clinic the number served in each clinic closely approached the stated objectives.

In terms of services provided the EPSDT portion of the program is functioning well. Statewide there is good coordination and cooperation with Department of Social Services personnel and problems which arise are handled expeditiously. There have been two things which affected EPSDT on local and state levels, the major one of which was the implementation of Title XX. This decreased Department of Social Services emphasis on EPSDT and at the same time federal emphasis increased. This, however, has been alleviated by the employment of more Department of Social Services personnel for the EPSDT program. This never compensated the several months following the Title XX implementation. Other problems affecting this program are (1) the consistently high "no show" rate (approaching 50% in some areas) (2) problems with transportation of patients to clinic because of Community Action Project transportation contracts were not renewed and (3) lack of understanding of the service by patients. There was a four district federal audit of services.

The number in each district receiving EPSDT screening is indicated in Table I.

(\* As defined in Policy Manual for Nursing Service, Bureau of Maternal and Child Care.)



TABLE I — NUMBER OF CHILDREN  
RECEIVING EPSDT SCREENING

District	Number Screened	Agency Objective*	Percent Objective Met
Appalachia I . . . . .	871	898	97
Appalachia II . . . . .	1,003	1,543	65
Appalachia III . . . . .	1,763	1,575	112
Upper Savannah . . . . .	1,846	1,890	98
Catawba . . . . .	1,485	1,360	109
Central Midlands . . . . .	2,380	2,876	83
Lower Savannah . . . . .	2,989	4,751	63
Wateree . . . . .	3,083	3,255	95
Pee Dee . . . . .	5,237	4,825	109
Waccamaw . . . . .	2,705	2,510	108
Trident . . . . .	2,651	3,957	67
Low Country	1,758	1,900	93
State Totals . . . . .	27,771	31,340	89

(\* The FY 76 objective is that set by the districts as part of the MBO process and is not the Department of Social Services "quota" (35,000) for the year's EPSDT.)

The services rendered and the percent with abnormal findings are shown in Tables II and III.

TABLE II — SERVICES RENDERED—EPSDT

Type	Number
DDST . . . . .	764
Physical Appraisal . . . . .	27,961
Sickle Cell . . . . .	3,129
Lead Screening . . . . .	141
Immunizations . . . . .	13,745
Parasite Tests* . . . . .	4,492

(\* In past years the number of parasite tests referred only to the number of containers given out. For FY 76, the numbers refer to those patients on whom a laboratory determination of parasite infestation was made.)

TABLE III — PERCENT OF ABNORMAL FINDINGS\*  
OF TESTS COMPLETED

Category	Percent
Vision . . . . .	7.61
Hearing . . . . .	2.62
Dental . . . . .	39.78
Sickle Cell . . . . .	.59
Lead . . . . .	.00
Other . . . . .	Not Available

(\* In FY 75 abnormal findings meant those patients referred for suspected problems. The FY 76 figures relate to confirmed problems.)

The demand for Child Health services continues to increase as a larger proportion of the population of South Carolina becomes aware of the need for preventive health care. Child Health clinic offers a wide range of screening services to its children and youth. In this fiscal year, there was more emphasis on the quality of the service offered rather than ever increasing numbers of patients. This is evidenced by the small increase in numbers of patients seen. This emphasis will continue into the coming year.

TABLE IV — NUMBER OF PATIENTS  
PROVIDED COMPREHENSIVE SERVICES  
IN CHILD HEALTH CLINIC BY DISTRICT — FY 76

District	Number Served	Number Clinic Visits
Appalachia I .....	887	921
Appalachia II .....	3,421	5,047
Appalachia III .....	719	926
Upper Savannah .....	1,078	1,374
Catawba .....	1,151	1,370
Central Midlands .....	2,607	3,523
Lower Savannah .....	1,771	2,701
Wateree .....	1,178	1,683
Pee Dee .....	1,156	1,398
Waccamaw .....	1,302	2,106
Trident .....	1,324	2,024
Low Country .....	836	1,067
State Totals .....	17,430	24,140

The number of specific tests performed in the Child Health Clinics is shown below.

TABLE V — NUMBER SPECIFIC TESTS PERFORMED

Type	Number
Parasite .....	3,854
Tuberculin .....	3,959
Vision .....	3,973
Hearing .....	3,894
Hemoglobin .....	17,303
DDST .....	3,641
State Total .....	36,624

As Child Health Clinic screening has improved in terms of the skill levels of the providers, the demand for pediatric services as a second



level of care has also increased. The pediatric clinic offers that necessary conjunctive level of health care associated with any screening program. In Charleston, the pediatric clinics, utilizing nurse practitioners, offer primary health services to a large segment of children. Increased use of Nurse Practitioners and more available physician time will see a further development of primary health care delivery in health departments. Table VI indicates the number served in each district.

TABLE VI — NUMBER SERVED IN PEDIATRIC CLINIC, FY 76

District	Number
Appalachia I . . . . .	658
Appalachia II . . . . .	1,585
Appalachia III . . . . .	203
Upper Savannah . . . . .	94
Catawba . . . . .	128
Central Midlands . . . . .	694
Lower Savannah . . . . .	108
Waterlee . . . . .	136
Pee Dee . . . . .	277
Waccamaw . . . . .	100
Trident . . . . .	6,847
Low Country . . . . .	212
State Total . . . . .	11,042

There is at least one pediatric clinic in each health district in the state.

The Child Evaluation Clinic has been affected by regional centers for the developmentally disabled child, thereby bringing the resource closer to the family setting. Additionally, Child Evaluation Clinic has had difficulties operationally; this, combined with these regional centers, has led to a phasing out as of October 1, 1976.

Immunization levels, as reported, remain lower than desired in all age groups except those under one year of age. Immunization levels reporting has been steadily improving over the fiscal year. Three districts have sampled patients shown as being delinquent for immunizations — two districts found reporting errors accounting for low immunization levels — one district found that children were not returning and are instituting follow-up procedures. Re-training is planned in districts with errors. For other districts, we are investigating the feasibility of intensive follow-up.

## CRIPPLED CHILDREN

*Problem:* There are approximately 31,000 children in South Carolina who have single or multiple handicapping conditions, many of whom require specialized or long term treatment. If left untreated, these conditions may hinder or preclude normal growth and development, may lessen the possibility of becoming productive citizens, or may cause death.

*Objective:* During FY 76 to provide on a statewide basis Crippled Children's services to 9,765 children through the provision of the following specific services:

- Diagnostic services to 2,100 new children.
- Medical/surgical treatment to 9,765 children.
- Hospitalization to 1,343 children.
- Convalescent Center services to 135 children.
- Crippled Children's Camp services to 400 children.
- Supportive services to 9,765 children.
- Public health nursing services to 7,724.
- Social work services to 3,000 children.
- Nutritional counseling to 1,290 children.

*Narrative:* Except for convalescent center care, hospitalization and nutritional counseling, the objectives were met. As indicated in Table I, services were provided to 2,191 new patients, down slightly from FY 75. The scope of the program was broadened this year to include hemophilia and certain metabolic disorders.

TABLE I — CASELOAD

No. of cases open (beginning of year) .....	8,467
Applications received during year .....	2,320
New cases registered .....	2,191
Cases rejected as diagnostically ineligible .....	129
Cases removed from caseload (See Table III) .....	2,032
No. of cases reopened .....	171
No. of cases (end of year) .....	8,797

It is difficult to explain the increase in the number of referrals to the Crippled Children's Program. The following may have a direct bearing: The Department of Education's emphasis on finding handicapped children and referring them for correction or amelioration of handicaps; increase in number of referrals to program from Child Health Conferences and Pediatric Clinics; decreases in county and state allocations for health care services, with subsequent increase in referrals to health department programs; decrease in federal allocations for certain types of health care projects.



Medical/surgical treatment provided 9,665 patients (99% of the objective). This figure differs from the figure (7,985) submitted on Children's Bureau Report in that this report does not reflect dentist, orthodontist, audiologists, physical therapist and occupational therapists services unless provided in a hospital.

Hospitalization was provided 1,121 patients or 83% of the objective. Convalescent Center Care was provided 99 children (73% of projected goal). While the patient population during this period declined in numbers, the types of patients admitted are different from a diagnostic condition standpoint. They are patients requiring intensive nursing care and medical supervision, i.e. infants with multiple handicapping conditions, Cystic Fibrosis, congestive heart failure, failure to thrive, suspected neglect and abuse. If this type of care were not available, patients would require hospitalization at a rate of from \$165.00 to \$190.00 per day versus approximately \$55.00 — that is \$110.00 to \$135.00 more per day.

Camping experiences were provided 513 children at a cost of \$98 per patient, or \$20 less than anticipated.

Public health nursing follow along was provided to 8,941 children; Social Work services were provided to 3,091 children; and nutritional counseling was provided to 687 children.

As seen in Table II, there was some improvement over FY 75 in the age distribution of newly registered patients.

TABLE II — AGE DISTRIBUTION OF NEWLY REGISTERED PATIENTS

Age at Registration	No.	%
1 .....	559	26%
1 - 3 .....	630	29%
4 - 12 .....	733	33%
13 - 20 .....	265	12%
Unknown .....	4	
Total .....	2,191	100%

Considerable effort has been made to reject or remove from the program those patients considered medically and/or financially ineligible for services. Medicaid eligible patients thought to have adequate services under that Program are no longer accepted for treatment.

TABLE III — REASON FOR DISCHARGE — ALL PATIENTS

Reason for Discharge	No.	%
Medically ineligible .....	332	16%
Financially ineligible .....	86	4%
No further treatment indicated under CC Program .....	165	8%

Cured (Condition Corrected) .....	404	20%
Discharged to care of another program or agency .....	179	9%
Discharged to private care .....	95	5%
Moved out of state .....	152	7%
Deceased .....	103	5%
Parents request .....	121	6%
Unable to locate .....	74	4%
Over Age .....	153	8%
Other .....	168	8%
Total .....	2,032	100%

These percentages by reason for discharge have remained fairly constant for the past three years.

The number of crippled children registered and served in FY 76 by district is indicated below.

TABLE IV — CRIPPLED CHILDREN SERVED  
BY DISTRICT, FY 76

District	No. Patients Served
Appalachia I .....	398
Appalachia II .....	622
Appalachia III .....	738
Upper Savannah .....	495
Catawba .....	474
Midlands .....	1,194
Lower Savannah .....	746
Wateree .....	634
Pee Dee .....	1,092
Waccamaw .....	602
Trident .....	658
Low Country .....	332
Total .....	7,985

S. C. average of children served per 1,000 is 7.8; national average is 6.4 per 1,000.

#### DENTAL HEALTH

*Problem:* Many persons in the State do not have the necessary knowledge to attain and maintain good oral health and to prevent the occurrence of dental disease. Even if the population has been exposed to information concerning good oral hygiene, they are not stimulated to use this knowledge. A low priority on dental health results. Corrective



services are used routinely by about 45% of the population. An additional 40% obtains care on an emergency or non-routine basis, while the remainder does not or cannot obtain care because of finances, transportation or dental manpower non-availability.

*Objective:* To provide corrective services to 800 persons.

*Narrative:* Corrective services or dental care services were provided to 695 patients, reflecting an achievement of 87% of the objective. This shortfall was occasioned by the non-employment of the part-time dentist for a number of months during FY 76. The number of services provided to the 695 patients totals 1,502. Table I shows patients, visits and services performed in the clinics receiving financial assistance from the Central Office. The clinic at Ridgewood School was closed in December, 1975. The equipment was transferred to Central Midlands to assist in their expanded clinical program. The dentist employed on a part-time basis transferred his services to the Central Midlands location and the Central Office continued to underwrite his financial reimbursement until the third quarter of the year, at which time support was withdrawn. During the latter part of FY 76 the monies available for the services of a part-time dentist were provided to the Trident District which assisted them in starting a new dental clinic in the northern part of Charleston County. Equipment had been present but there was no money available for personnel. During the early part of FY 76 a three-chair mobile dental unit was purchased for the Central Midlands Health District. In addition, items of equipment and start-up supplies were provided and the Central Midlands supplied the personnel to operate the unit. The services of a dentist and a dental hygienist were procured and plans were formulated to develop a District-wide dental health program.

TABLE I — DENTAL CLINICAL PROCEDURES, FY 76

Clinic	Patients	Clinic Visits	Total Procedures
Aiken .....	568	685	941
North Charleston .....	23	73	412
Ridgewood School .....	104	104	149
Total .....	695	862	1,502

*Objective:* To provide dental disease prevention services to 42,000 persons in the State, and collect data on level of dental health and oral hygiene.

*Narrative:* During the fiscal year, 50,213 dental preventive kits were distributed throughout the State, reflecting a 120 percent achievement of the objective. A fluorosis index was determined for the continuous resident school children in the elementary school at Myrtle Beach. Financial assistance for the installation of fluoridation procedures was

provided to the communities of Batesburg, Kershaw, Lake City, Laurens, Timmons ville, Williamston, to the water districts of Edgefield and Lugoff, and to the communities of Bishopville and Darlington for updating their equipment. The population served by the water systems in these communities is approximately 58,000 persons.

A sodium fluoride mouthrinse program was established during FY 76 in the schools of Newberry County for all 4th grade students. Approximately 500 students received the fluoride mouthrinse once a week in the classroom. The fourth and fifth grade students will participate in this program during FY 77, increasing the total number of students receiving the mouthrinse to approximately 1,000.

*Objective:* To provide dental disease education services to 63,500 persons in the State.

*Narrative:* A total of 61,474 persons received dental disease education services. Educational materials amounting to 49,950 booklets, dental charts, teaching guides, worksheets, flossing and brushing instruction sheets and activity sheets, such as crossword puzzles, quizzes, etc. were used by the teachers and health departments in the state. In addition to the educational materials distributed, there were 913 showings of 55 dental health films to an audience of 36,000 persons.

Teacher workshops specifically for dental health education in the schools were held in Wagener, Kershaw, Lexington School District #5, Richland County and Salley. Health Education workshops for teachers sponsored by the South Carolina Department of Education included dental health and were held in the counties of Williamsburg, Aiken, Anderson, Chester and Colleton. In addition to the above workshops, oral hygiene instruction was given to Clemson University students who are in teacher training. A total of 850 teachers and teacher trainees received basic dental health information, plaque control kits (toothbrushes, disclosing tablets and dental floss), teaching guides and other materials to assist them in teaching oral hygiene procedures in the classroom.

*Objective:* To provide 275 man-hours of consultative services to dental project administrators in the state who are supported financially either by federal or local funds.

*Narrative:* Consultative services and assistance as requested were provided to local dental programs, OEO programs, Department of Social Services, agencies in program development, program expansion, recruitment of personnel and compilation of services rendered. Six hundred ninety-three man-hours were expended in this objective.

*Objective:* To check 2,000 dental patients, age six and above, for hypertension, and if present, refer to correct program.

*Narrative:* Dental personnel in 15 clinics took blood pressure readings on 1,298 dental patients. This procedure was not started until the second



quarter. A 65% achievement is reflected for the year. The number of abnormal readings was very low (2 out of 1,298).

### EARLY DISEASE DETECTION

*Problem:* Heart disease, cancer, hypertension, diabetes, and other chronic diseases affect over 500,000 South Carolinians. Many of these people are unaware of their conditions or the conditions are not adequately controlled. These diseases account for the majority of deaths in South Carolina and they are also a major cause of or contributing factor to disability. When identified through screening and properly diagnosed, the course of chronic disease can be affected favorably by drug control and/or behavior modification. However, there is not an adequate statewide program to detect chronic conditions and through referral, education, and surveillance to prevent complications of uncontrolled disease.

*Objective:* To provide limited disease screening to 50,000 individuals.

*Narrative:* Limited disease detection services (categorical or limited multiphasic screening with appropriate referral for high blood pressure, diabetes, cervical and breast cancer) were provided to 41,455 individuals during FY 76. The Cervical Cytology Project was completely implemented during the fourth quarter with a substantial increase in detection and follow-up.

*Objective:* To provide comprehensive disease detection to 15,000 individuals.

*Narrative:* Comprehensive Disease Detection (comprehensive multiphasic screening including a comprehensive health history, anthropomorphic measure, blood pressure, urinalysis and other physical and laboratory tests as indicated) was provided to 14,446 individuals or 96% of the planned figure.

As part of an experimental project for the agency, we provided an inservice program on blood pressure measurement and the epidemiology of blood pressure to approximately 176 nurses, doctors, and paraprofessional persons over the Health Communications Network. During the month of May we cooperated with the National High Blood Pressure Education Program in the promotions of National High Blood Pressure Month.

*Objective:* To assure that 90% of the approximately 11,000 individuals found to have abnormalities receive adequate follow-up.

*Narrative:* Out-of-range findings such as elevated blood pressure, blood sugar, and serum cholesterol; abnormal EKG's, chest films and pap smears; breast lumps and overweight were detected in 9,873 individuals (18% of those screened). Of those detected 7,212 (73%) individuals have been documented to have completed follow-up. This probably underestimates considerably the number completing referral. Abnor-

malities diagnosed include high blood pressure, cancer, diabetes, hypercholesteremia, and heart disease. This includes both new diagnoses and conditions that needed additional care. The 90% follow-up objective seems unrealistic and has been revised downward for the next year.

*Objective:* Provide health surveillance to 4,000 individuals with conditions such as hypertension and diabetes.

*Narrative:* Health Surveillance Services (physical assessment, counseling, educational services, nursing care and referral for or provision of medical care) were provided to 3,818 individuals. Included in this is patient appraisal, monitoring, and health teaching. These services are provided for patients with high blood pressure, diabetes and other chronic diseases. Diabetic classes were also available in Trident, Low Country and Appalachia Districts.

*Summary:* Table I summarizes the services of this program in FY 76.

TABLE I — EARLY DISEASE DETECTION ACTIVITIES

Activity	Number	% Change from FY 75
Limited Disease Detection . . . . .	41,455	-36%
Comprehensive Disease Detection . . . . .	14,446	+71%
Yield (Number needing follow-up) . . . . .	9,873	-07%
Follow-up completed . . . . .	7,212	+25%
Health Surveillance . . . . .	3,818	

The decrease in Limited Disease Detection is partly due to the increase in Comprehensive Disease Detection and the implementation of Health Surveillance. With reduced resources, increases in all categories were not possible.

## FAMILY PLANNING

*Problem:* There are an estimated 131,035<sup>1</sup> women and 114,714 men in South Carolina in need of family planning services.

*Objective:* To provide comprehensive<sup>2</sup> family planning services to 67,538 females and 6,723 males by June 30, 1976.

*Narrative:* The number of patients served was below expectations with the program reaching only 91% of its objective. Administrative and startup problems with the Title XX program resulted in a loss of projected revenues that were budgeted for operations, along with the decrease in federal support. Also the rising costs of both operating and personnel, without additional dollars, necessitated restrictions in travel directed towards recruitment and follow-up of patients. The number of patients served declined 2.9% from the previous year.



TABLE I — NUMBERS OF FEMALES SERVED BY  
DISTRICT, FY 76

District	Number <sup>3</sup> In Need	Number Served	Percent of Need
Appalachia I . . . . .	5,187	1,554	30.0
Appalachia II . . . . .	10,695	3,690	34.5
Appalachia III . . . . .	9,855	4,247	43.1
Upper Savannah . . . . .	6,983	3,496	50.1
Catawba . . . . .	6,782	4,518	66.6
Midlands . . . . .	15,309	7,748	50.6
Lower Savannah . . . . .	12,284	5,711	46.5
Wateree . . . . .	11,214	6,072	54.2
Pee Dee . . . . .	16,670	7,239	43.4
Waccamaw . . . . .	10,217	3,219	31.5
Trident . . . . .	18,780	9,998	53.2
Low Country . . . . .	7,059	3,883	55.0
State Total . . . . .	131,035	61,375	46.8

<sup>1</sup> Revised subsequent to publication of FY 76 Plan.

<sup>2</sup> As defined in Family Planning Program Manual.

<sup>3</sup> Number in need figure varies from year to year due to changing economic conditions in the state. Figures furnished by Planned Parenthood-World Population.

The male involvement program was initiated this year and is one of the few such programs in the nation. The program achieved only 54% of its objective, serving 3,629 patients of a projected 6,723. As with any new program, our administrative and start-up problems were the major contributing factors for not meeting this objective.

*Objective:* To provide infertility services\* to 317 couples by June 30, 1976.

*Narrative:* As shown in Table II, this objective was more than met.

TABLE II — NUMBER OF COUPLES RECEIVING  
INFERTILITY SERVICES

	FY 76	% Change From FY 75
Couples . . . . .	335	+22%

The number of infertility couples increased by 22% and the program exceeded its objective by 6%.

*Objective:* To increase the continuation rate\*\* of the statewide family planning program from 65% to 75% by the end of FY 76.

*Narrative:* The Family Planning program had an objective to increase its continuation rate (% of active patients) from 62% to 75%. Instead, this rate dropped 2% further to 60%. With budget and staff restrictions,

(\* As defined in Family Planning Program Manual.)

(\*\* Active patients as a percent of total caseload.)

there has subsequently been less of a priority in outreach and the follow-up of delinquent patients.

*Objective:* To provide at least one health education class session to all new contraceptive patients which will produce demonstrable cognition of at least those topic areas outlined in Section B of the Health Education Curriculum Standards.

*Narrative:* The percentage of patients receiving health education classes increased considerably but still fell short of the objective. This is partially due to a reporting error in two districts and lack of compliance with program policy in another district.

TABLE III — PERCENT OF NEW PATIENTS  
RECEIVING HEALTH EDUCATION CLASS

	FY 76	% Change From FY 75
Percent of new patients . . . . .	91%	+34%

*Objective:* To further family planning information and education in each district through community organization and education.

To train a sufficient number of persons to maintain at least one person per district as an American Association of Sex Educators and Counselors Certified Sex Educator.

To provide family planning information and education to a minimum of two target groups per district during FY 76.

*Narrative:* Ten (one more than projected) sex educators were certified by the American Association of Sex Educators and Counselors. Ten districts provided education and community organization to target groups within their district.

### HEART DISEASE CONTROL

*Problem:* Heart disease is the leading cause of death in the United States and in South Carolina. Nearly 650,000 South Carolinians, 52% men, have some form of cardiovascular disease (definite and suspect). Of these, approximately one-third are medically indigent.

*Objective:* To examine 700 newly referred patients for diagnosis of cardiovascular disease.

*Narrative:* Six hundred four newly referred patients were seen in the seven heart clinics operating in various parts of the state. One of the clinics was without the services of a cardiologist for several months, but emergency referrals were sent to the Medical University of South Carolina (MUSC).

Findings among those examined were as follows:



TABLE I — NEW PATIENTS SEEN IN CLINICS,  
BY DIAGNOSIS

Diagnosis	Number
Congenital .....	113
Hypertension .....	34
Rheumatic .....	103
Ischemic .....	144
Other Forms, Heart Disease .....	124
Cerebrovascular Disease .....	3
Disease of Arteries .....	5
Other diseases of circulatory system .....	4
No heart disease .....	151
	<hr/> 681

There were no significant changes in types of cases referred except ischemic which shows decrease. This may be due to more refined disease coding. The total cases includes the cases which had not been diagnosed last fiscal year.

*Objective:* To recommend treatment for 600 persons with diagnosed cardiovascular disease.

*Narrative:* Only 269 persons had treatment regimens instituted. The reason for this shortfall was improper reporting. Due to misunderstanding most clinics only reported as "recommended for treatment" those patients referred for catheterization, surgery or more sophisticated diagnostic procedures. In a telephone survey of the larger clinics, it was determined that all patients diagnosed as having heart disease during Fiscal Year 1976 did in fact have treatment recommended when defined as medications, diet, exercise, etc.

*Objective:* To provide follow-up care to 2,000 persons with diagnosed cardiovascular disease.

*Narrative:* Again the objective was not met, with only 1,041 unduplicated patients being provided continuity of care. This was because several clinic sessions at MUSC were cancelled due to various reasons (State holidays, moving of equipment, etc.) and no clinic "make-up days" could be scheduled as no clinic time was available. One clinic was closed for over three months as no cardiologist was available. Using the average attendance at these two clinics, 200 more persons would have been followed; however, again we feel there has been incorrect reporting in some of the areas.

If home visits and health department visits are considered, the number of heart patients receiving follow-up would exceed the planned figure.

*Objective:* To provide prophylaxis to 500 persons with congenital or rheumatic heart disease.

*Narrative:* In this instance, the objective was exceeded with 588 persons receiving prophylaxis.

*Activities:* Overall heart clinic activities are shown in Table II.

TABLE II — HEART CLINIC ACTIVITIES

Total Patients Served .....	1,645
Old Patients .....	1,041
New Patients Served .....	604
Total Clinic Visits .....	2,618

### HOME HEALTH SERVICES

*Problem:* People have illnesses and injuries that do not require professional services in an institution on a 24-hour basis but benefit from professional care on an intermittent basis. It is estimated that 10% of the population over 65 and 0.5% of those under 65 are in need of Home Health care each year. In South Carolina, this equates to 34,846\* persons and is 3.5 times the number of persons who received Home Health Services in FY 74.

*Objective:* To provide 234,189\* Home Health Service visits, of a high quality, to 13,915\* essentially homebound persons in the twelve health districts.

*Narrative:* During the year a total of 209,186 visits were made to 12,933 persons. This represents an achievement of 89.3% of the objective for visits and 92.9% of the objective for persons served. In comparing FY 76 with FY 75, the number of persons served increased in FY 76 by 510 and represents an increase of 4.1%; however, the number of visits actually declined from 225,080 in FY 75 to 209,186 in FY 76 and represents a 7.1% change. Visibility of the service and patient recruitment account for the increase in number served, especially in the Appalachia III and the Central Midlands.

Table I indicates the number of persons served in each district, the percent of need met, and indicates the percent of change in the number served.

(\* Revised subsequent to publication of FY 76 Plan.)



TABLE I — NUMBER PERSONS SERVED AND PERCENTAGE  
OF NEED MET, FY 1976

District	No. In Need	No. Served	% Need Met
Appalachia I . . . . .	2,190	898	41.0
Appalachia II . . . . .	4,102	1,406	34.3
Appalachia III . . . . .	3,521	1,596	45.3
Upper Savannah . . . . .	2,361	866	36.7
Catawba . . . . .	2,200	855	38.9
Central Midlands . . . . .	4,721	1,592	33.7
Lower Savannah I . . . . .	1,608	714	44.4
Lower Savannah II . . . . .	1,391	996	71.6
Wateree . . . . .	2,048	841	41.1
Pee Dee . . . . .	3,597	1,618	45.0
Waccamaw . . . . .	1,848	889	48.1
Trident . . . . .	3,889	1,218	31.3
Low Country . . . . .	1,370	805	58.8
State . . . . .	34,846	14,294	41.0

Significant accomplishments during the year include implementation of a statewide contract for medical supplies and equipment on July 1, 1975 which resulted in a savings of approximately \$289,000, or \$6.45 per patient for medical supplies and \$16.81 per patient for medical equipment; reduction in the cost of contracted therapy services; reduction in the charge for visits based on FY 75 costs and FY 76 projections; and, addition of a speech therapist, a physical therapist, and a clinical specialist to the bureau's staff.

Table II indicates the number of visits made by service component.

TABLE II — NUMBER OF VISITS  
BY SERVICE COMPONENTS FY 1976

Service Components	Number of Visits
Nursing . . . . .	177,895
Physical Therapy . . . . .	4,846
Home Health Aide . . . . .	19,320
Medical Social Worker . . . . .	2,868
Speech Therapy . . . . .	439
Dietary . . . . .	724
Home Maker . . . . .	3,094
Occupational Therapy . . . . .	—
Total . . . . .	209,186

The number of visits was down 7.1% from the previous year. The major factor contributing to the reduced number of visits centers on the districts' effort to conform to what is considered to be unreasonable and frequently revised interpretation of covered care on the part of the fiscal intermediary. This problem had not been resolved at the end of the fiscal year.

## MATERNITY AND HIGH RISK PERINATAL CARE

*Problem:* South Carolina ranks 48th in the United States for perinatal mortality. Approximately 18,829\* women are in need of subsidized maternity care. The lack of or inadequate maternity care results in:

High maternal and infant mortality rate; an increase in the number of premature births; mental retardation; congenital birth defects; and, complication during labor and delivery.

*Objective:* Provide comprehensive prenatal care to 7,689 maternity patients, 14% beginning in the first trimester, 65% beginning in the second trimester, and 21% beginning in the third trimester.

*Narrative:* The number of patients served registered a 21% increase over the previous year and exceeded this year's objective by 4%. Even though the birth rate is falling, the maternity program continues to demonstrate a need for subsidized care. Not only did the number of patients increase, but these patients were seen more times. The number of visits per patient increased from 3.8 in FY 1975 to 4.2 in FY 1976. Since the high risk patient is usually screened through the regular maternity program, the sum of patients served in the regular maternity and high risk programs will not provide an unduplicated count of patients served. The number served for FY 76 includes those patients served in the regular maternity program plus those screened and referred to the high risk service.

(\* Revised subsequent to publication of FY 76 Plan.)



TABLE I — MATERNITY PROGRAM

District	Est. No. In Need	No. Served	Percent Need Met	No. of Clinic Visits
Appalachia I . . . . .	715	440	61.5	1,888
Appalachia II . . . . .	1,266	770	60.8	3,982
Appalachia III . . . . .	1,260	129	10.2	846
Upper Savannah . . . . .	907	543	59.9	1,907
Catawba . . . . .	920	365	39.7	1,352
Midlands . . . . .	2,151	2,081	96.8	9,498
Lower Savannah . . . . .	1,769	1,081	61.1	3,395
Wateree . . . . .	1,551	244	15.7	980
Pee Dee . . . . .	2,667	929	34.8	2,868
Waccamaw . . . . .	1,721	612	35.6	3,103
Trident . . . . .	2,688	656	24.5	3,637
Low Country . . . . .	1,214	128	10.6	395
State . . . . .	18,829	7,978	42.4	33,851

Of our new admissions this year 28% were seen during the 1st trimester, 51% were admitted during the second trimester and 20% during the third. Our 1st trimester objective was met at 200%, the second trimester at 78% and the third trimester at 95%.

*Objective:* To provide high risk maternity care, including delivery service, to 700 patients; and, to provide neonatal care to their offspring, as well as to an additional 100 high risk neonates.

*Narrative:* The high risk services were available for the first full year to an increased number of patients. Patients are being authorized from 10 of the 12 districts and we hope to have the services available in all districts during FY 77. The services fell short of the objective this year due to lack of accurate data for projections. Also two districts began their own high risk projects under Health Care Extension funds, and their patients are not included in the state totals below.

TABLE II — HIGH RISK PATIENTS

	No. Served
High Risk Maternity Patients . . . . .	483
Neonates . . . . .	507

Age and education status have an influence on maternity outcome with many of those under 18 and over 35, and those with less than a high school education, falling into the high risk category. The age and educational levels are indicated in Tables III and IV.

TABLE III — MATERNITY PROGRAM  
AGE DISTRIBUTION, NEW ADMISSIONS FY 76

Age	No. Patients
<15 .....	218
15 .....	311
16 .....	518
17 .....	611
18 .....	629
19 .....	682
20-24 .....	2,030
25-29 .....	787
30-34 .....	307
35+ .....	210
Total .....	6,303
Not Stated .....	115

TABLE IV — MATERNITY PROGRAM  
EDUCATION STATUS, NEW ADMISSIONS FY 76

Grade	Number	Percent
1 - 5 .....	87	1
6 - 8 .....	1,014	16
9 .....	964	15
10 .....	1,093	17
11 .....	1,010	16
12 .....	1,915	30
12+ .....	208	3
Total .....	6,291	
Not Stated .....	127	

*Vital Statistics:* Table V indicates perinatal vital statistics.

TABLE V — VITAL STATISTICS, CY 1975

	Number	Rate
Maternal Deaths* .....	4	0.9
Infant Deaths** .....	897	19.2
Fetal Deaths** .....	653	14.0
Premature Births** .....	4,205	90.1
Neonatal Deaths** .....	638	13.7
Live Births*** .....	46,665	16.6

( \* Per 10,000 live births)

( \*\* Per 1,000 live births)

(\*\*\* Per 1,000 population)



## MIGRANT HEALTH PROJECTS

*Problem:* Each year,\* commencing in May and terminating in late October, migrant workers and their families (approximately 6,000 persons) harvest the vegetable and fruit crops of South Carolina. This group constitutes an essential part of the work force. Due to the mobility and short stay in the state of this type of worker, special and unique problems exist in such areas as housing, safety, and health.

*Objective:* During the period May through October to provide primary health care services\*\* through approximately 1,500 migrant worker visits in Charleston, Beaufort, Edgefield, Spartanburg, and Oconee Counties.

*Narrative:* The major accomplishments of the Migrant Health Program during the 1975 harvest season were the establishment of a statewide program, the introduction of a uniform reporting system, the expansion of the scope of services in the Edgefield and Spartanburg components and the establishment of a new program in Oconee County. Actual visits exceeded planned visits by 26%.

Among the recurring deficiencies are the personnel turnovers leading to a lack of continuity, a lack of understanding of State policies and procedures by the component areas, an inadequate understanding by the State offices of the individual problems encountered by the components.

The most commonly encountered problems are caused by the arrival of migrants with little or no information on past illnesses, allergies, immunizations, etc., inability of the program to pay in-patient costs to county hospitals, a number of county hospitals still have no third-party support for migrants, and difficulty of reaching migrants who have moved up-stream and have been diagnosed as having conditions which require further treatment, sometimes immediate.

Corrective action on the problem of little information accompanying migrants must rely on Federal leadership with State cooperation. Financial relief for hospitals experiencing migrant in-patient visits will likely have to wait for more favorable economic times. Contracts will be written to bring some relief to hospitals currently with no migrant support. The problem of up-stream referral involves many states and is currently under study by the Federal Government.

*Objective:* During the period May to October to provide outpatient treatment and emergency room care through 1,000 migrant worker visits in Sumter, Orangeburg, Chesterfield, Darlington, Allendale and Hampton Counties.

\* FY for Migrant Project is 1 May - 30 April.

\*\* Emergency room visits/clinic and special referrals.

*Narrative:* This objective was not met as only 824 visits were recorded. However, all migrant workers who reported for treatment or care were seen.

*Objective:* Establish a Policy Board by 1 January 1976.

*Narrative:* Actions on establishment of a Policy Board was held in abeyance pending decisions by the Department of Health, Education, and Welfare (DHEW) as to which programs will be required to establish a board.

*Objective:* Develop uniform billing, collecting, and third-party pay mechanism by 30 April 1976.

*Narrative:* Although there was close contact between project personnel and the agency's Bureau of Budgets, Finance and Accounts, a uniform mechanism was not developed. An accounting system was established under the supervision of a DHEW accounting consultant. Contracts are reviewed by the agency's Internal Auditor.

*Objective:* Refine data collecting and reporting methods by 30 April 1976.

*Narrative:* A reporting system employing the use of DHEW encounter forms was adopted in June 1975, after the commencement of this harvest season, and was utilized in all components and supporting hospitals.

## SICKLE CELL

*Mission:* To educate the public about sickle cell anemia and other hemoglobinopathies. To provide counseling services upon referral.

*Significant Activities:* Emphasis during this past year was on educating and counseling. Staff members worked very closely with various sickle cell foundations around the state. Since these foundations lack the coordination and direction to be gained from a state association or chapter, the agency staff served that role to a large degree.

Forty-two educational sessions with schools and community organizations were held, with 3,599 people in attendance. Additionally, the health educator set up informational booths and exhibits at the following workshops and seminars: Kershaw County Health Fair (Department of Education), Richland Memorial Hospital (Sickle Cell Symposium), S. C. Public Health Convention, Myrtle Beach, S. C. Morticians Association Convention, S. C. Association of Health, Recreation, and Physical Education Convention.

Ten in-service training sessions were held, covering 17.5 hours, with 147 persons attending.

Counseling was provided to 371 persons referred from local health departments, special screening projects, and physicians. Social workers provided periodic follow-up to 78 sickle cell disease patients.



A planned one week summer camp for 100 children with sickle cell anemia was not held. However, 14 of these children were incorporated into one of the regular summer camp sessions of the agency's Crippled Childrens program.

Activities conducted this year are shown below.

#### SICKLE CELL ACTIVITIES

No. educational sessions .....	42
No. persons attending .....	3,599
No. training sessions .....	10
No. persons attending .....	147
No. referred individuals counseled .....	371
No. home visits .....	52
No. referrals to other sources .....	25
No. mailouts of informational packets .....	1,000
No. brochures and pamphlets distributed .....	27,492
No. requests for information received .....	179

#### STATE PARK HEALTH CENTER

*Mission:* To provide high quality hospital treatment and rehabilitation of tuberculosis and chronic respiratory disease patients and to house and support other DHEC activities as determined by the Commissioner.

*Significant Activities:* The renovation program of the Farmer Hospital Building, including the new surgical suite, was completed in early January, 1976, and the hospital was occupied in mid-January. The completed hospital is now equipped and structured to provide safe, sanitary and comfortable medical care. Renovation of the fifth floor surgical suite provides greatly improved facilities for thoracic and general surgery. Included in the modernization program are new operating room equipment and utilization of modern advances in fire and safety equipment. The suite now consists of two standard operating rooms and recovery room. Construction continues on new agency laboratory facilities.

Arrangements were made to house the agency's Bureau of Health Facilities and Services. The move of the bureau will take place at the beginning of FY 77.

Average daily census and other patient statistics are indicated below.

TABLE I — PATIENT STATISTICS

Average Daily Census .....	116.5
Patient Days .....	42,646
Average Hospital Stay (Days) .....	94
Persons Hospitalized on July 1 .....	90

Admissions .....	503
Discharges .....	549
Deaths .....	44
Persons Treated .....	683

### TUBERCULOSIS CONTROL

*Problem:* Tuberculosis continues to be a major public health problem in South Carolina. The annual incidence has remained relatively constant since 1964 with only a slight reduction in the new case rate during this time. South Carolina's relative rank among the 50 states has increased from twentieth in 1964 to third in 1973 and 1974.

#### Number of Newly Reported Tuberculosis Cases and Case Rate in South Carolina 1964-74 and Rank of Case Rate in United States (Highest to Lowest)

Calendar Year	New Cases	Case Rate (a)	Rank According to Rate in U. S.
1964	683	27.1	20
1965	758	29.7	13
1966	690	26.7	21
1967	716	26.9	14
1968	651	24.2	16
1969	630	23.4	12
1970	618	23.9	10
1971	669	25.5	4
1972	651	24.4	4
1973	619	22.7	3
1974	641	23.0	3

(a) Rate per 100,000 population

The most significant factor contributing to the sustained incidence of new cases is the prevalence of tuberculosis infection in the population. It is estimated that 500,000 persons in South Carolina are infected with the tubercle bacillus. The majority of these persons are in the 45 and over age group. Each is at risk of developing clinical tuberculosis during this lifetime, and although the risk increases with age, the majority will never develop disease. About 80% of the new cases reported each year come from the infected population (endogenous breakdown cases). The number of infected persons may be expected to decline slowly by attrition during the next several decades, but new cases in diminishing numbers will continue to come from the remaining infected population as breakdowns occur among some infected persons. It is imperative that efficient tuberculosis services be maintained and that chemotherapy for



treatment and prevention of disease be applied so that: (1) individuals who are able to infect others become non-infectious; (2) infected individuals remain non-infectious; and (3) non-infected individuals remain non-infected.

*Objective:* To insure that 95% of new cases complete the prescribed course of treatment (retrospective evaluation of around 600 new cases annually).

*Narrative:* The first priority in tuberculosis control is that patients become and remain non-infectious. This requires continuity and completion of adequate chemotherapy during a prescribed period of time, usually two years. Ninety-five percent of new cases can become non-infectious, recover, and remain well if they complete an effective drug regimen. During the period July 1, 1973 to June 30, 1973, 510 newly diagnosed cases to be followed were started on treatment. Two years later, as of June 30, 1976, 389 (76.3%) of those cases had completed an uninterrupted course of treatment.

*Objective:* To ensure that 95% of tuberculosis patients under supervision at home are currently on recommended anti-tuberculosis drugs (review of some 2,300 patients in active register).

*Narrative:* Continuous acquisition of anti-tuberculosis drugs by patients is essential to continuity and completion of adequate treatment. As of June 30, 1976, 1,285 patients under clinic supervision were recommended by physicians to be on chemotherapy. Of that number, 1,045 or 81.3% actually had obtained current supplies of drugs and were known to be taking them as prescribed.

*Objective:* To ensure that 75% of newly developed cases with positive bacteriology convert to negative within 3 months and that 95% convert within 6 months (retrospective evaluation around 300 new cases annually).

*Narrative:* Bacteriologic conversion of sputum also measures the first priority of tuberculosis control — to have infectious patients become non-infectious. With effective drug regimens we can expect 75% to achieve sputum conversion by 3 months and 95% by 6 months. During the report period, 377 of the newly diagnosed cases to be followed had positive sputum. Within 3 months, 327, or 86.7%, had converted to negative and within 6 months, a total of 355, or 94.2% had converted.

*Objective:* To examine 100% of the close contacts of new cases (estimate 6 contacts/case =  $6 \times 600 = 3,600$  persons).

*Narrative:* Examination of contacts of new cases identifies infection and disease within a high risk group. Analysis of contact data provides information on the prevalence of infection and disease in this group and indicates levels of performance in this activity which is productive in casefinding and in identifying candidates for preventive treatment. During the fiscal year, 2,594 contacts of new cases were identified and 2,400, or 92.5% were examined. Among those examined, 1,177 were

placed on preventive treatment (see objective below) and 25 new cases of tuberculosis were diagnosed resulting in a yield of 10.4 new cases per 1,000 contacts examined.

TABLE I — SUMMARY OF EXAMINATION OF  
CONTACTS OF CASES REPORTED BETWEEN  
7/1/75 AND 6/30/76 BY DISTRICT

District	New Cases 7/1/75 - 6/30/76		Contacts		
	Reported	No. With Contacts	No. Identified	No. Examined	% Examined
Appalachia I . . . .	20	19	233	228	97.9
Appalachia II . . . .	25	23	101	48	47.5
Appalachia III . . .	52	45	263	259	98.5
Catawba . . . . .	29	20	119	119	100.0
Low Country . . . .	32	29	229	211	92.1
Lower Savannah .	44	27	199	173	86.9
Midlands . . . . .	91	61	214	210	98.1
Pee Dee . . . . .	99	76	289	279	96.5
Trident . . . . .	106	88	357	314	88.0
Upper Savannah .	16	14	136	122	89.7
Waccamaw . . . . .	44	38	138	126	91.3
Wateree . . . . .	42	39	316	311	98.4
State Total . . . . .	600	479	2,594	2,400	92.5

*Objective:* To provide preventive treatment to 70% of the contacts examined (exclusive of contacts who are diagnosed with tuberculosis disease) and ensure that 95% complete the recommended course of treatment (70% of 3,600 = 2,520 persons. Also retrospective study for completion of treatment = 2,520 persons).

*Narrative:* Preventive treatment can reduce the probability of disease in high risk groups by 55 to 85 percent. It is particularly important that isoniazid be provided to persons at high risk of developing disease. This gets at the second priority in tuberculosis control, namely, to ensure that infected persons do not become infectious. The most important group in consideration of preventive treatment are the contacts of newly diagnosed cases. Of the 2,400 contacts examined minus the 25 new cases discovered, 1,177 contacts 49.6 per cent) were placed on preventive treatment. When evaluation is directed toward the infected contacts only, the percentage is 82.1.

It is equally important that persons started on preventive treatment complete the course as recommended by the physician, usually one year. Of 1,402 contacts started on preventive treatment between July 1, 1974 and June 30, 1975, 1,007 or 71.8%, had completed recommended treatment as of June 30, 1976.



*Objective:* To provide preventive treatment to persons at increased risk other than contacts and ensure that 95% for whom treatment is prescribed complete the course of treatment (approximately 3,200 annually. Retrospective study for completion of treatment = 3,200 persons). Included are: (1) persons with past tuberculosis disease not previously treated with adequate chemotherapy; (2) tuberculin skin test reactors with x-ray findings consistent with non-progressive tuberculosis disease; (3) newly infected persons (recent converters); (4) infected persons in special clinical situations; and (5) other positive reactors under 35 years of age who are not included above.

*Narrative:* Between July 1, 1974 and June 30, 1975, 2,226 such high risk persons were placed on preventive treatment. Of the 2,226 persons started on INH, 1,252, or 56.2%, completed treatment as of June 30, 1976.

*Statewide Data:* The table below summarizes pertinent data for FY 76.

TABLE II — TUBERCULOSIS DATA, SOUTH CAROLINA, FY 76

Newly reported cases .....	600
New case rate per 100,000 population .....	21.3
Contacts	
Identified .....	2,594
Examined .....	2,400
% Examined .....	92.5
% Started on Preventive Treatment (Infected) .....	82.1
Summary of cases on the register as of 6/30	
Total .....	1,430
Hospitalized for TB .....	95
In institution not primarily for TB .....	41
At home .....	1,294
% cases at home with rec. bacteriology .....	78.1
% cases at home on rec. treatment .....	81.3
% of total cases (hospitalized and at home on rec. treatment) .....	79.7
Sputum conversion percentage of new cases with positive sputum	
Within 3 months .....	86.7
Within 6 months .....	94.2
% cases completing rec. treatment .....	76.3
% of contacts completing rec. preventive treatment .....	71.8
% of others at risk completing rec. preventive treatment .....	56.2
Tuberculosis deaths <sup>a</sup> .....	53
Tuberculosis death rate per 100,000 population <sup>b</sup> .....	1.9

(a) Calendar year 1975

(b) Provisional population as of 7/1/75 used to calculate rate.

In FY 76, there were 600 new cases of tuberculosis reported in South Carolina, an 8.8% reduction from 658 cases reported in FY 75. Table III shows new cases and case rates per 100,000 population by district for FY 76.

TABLE III — NEWLY REPORTED TUBERCULOSIS CASES AND  
AND CASE RATES BY DISTRICT, SOUTH CAROLINA, FY 76

District	New Cases	Case Rates <sup>a</sup>	Rank According to Rate <sup>b</sup>
Appalachia I . . . . .	20	12.6	10
Appalachia II . . . . .	25	7.5	12
Appalachia III . . . . .	52	19.8	7
Catawba . . . . .	29	17.2	9
Low Country . . . . .	32	28.6	2
Lower Savannah . . . . .	44	19.3	8
Midlands . . . . .	91	21.6	6
Pee Dee . . . . .	99	35.6	1
Trident . . . . .	106	28.5	3
Upper Savannah . . . . .	16	9.8	11
Waccamaw . . . . .	44	28.0	4
Waterlee . . . . .	42	25.9	5
State Total . . . . .	600	21.3	..

(a) Rate per 100,000 population-provisional figures for 7/1/75.

(b) Rank highest to lowest

## VENEREAL DISEASE CONTROL

*Problem:* Syphilis and gonorrhea are major health problems in South Carolina and in FY 75 accounted for 608 cases of infectious syphilis and 20,784 cases of gonorrhea among civilians. Since these diseases frequently result in permanent physical impairment, acute complications, economic loss, school hour loss and cost in human suffering, it is imperative that these diseases be controlled.

*Objective:* To effect a reduction in the number of cases of reported infectious syphilis by 60 cases among the civilian population of South Carolina during FY 76.

*Narrative:* The objective for the year was exceeded at the end of the second quarter. A 10% reduction in the number of reported cases had been projected, but by the end of the year, a 20.9% reduction had been effected. The infectious syphilis case rate decreased from 23.5 (per 100,000) to 18.6. Investigators assigned to health districts accomplished this reduction by successfully applying several proven methods, principally: interviewing 98.8% of the reported cases; bringing to examination



within three days 66% of the locatable contacts; and prophylactically treating within 90 days of exposure, 99.7% of those negative contacts exposed to lesions.

The following table shows activities accomplished.

TABLE I — ACTIVITIES RELATED TO SYPHILIS — CIVILIAN POPULATION

No. cases infectious syphilis reported . . . . .	481
No. cases infectious syphilis interviewed . . . . .	480
Percent of cases interviewed . . . . .	99.8%
No. cases infectious syphilis reinterviewed . . . . .	464
Percent of cases reinterviewed . . . . .	96%
No. contacts examined . . . . .	1,057
No. contacts examined within 72 hours . . . . .	698
Percent contacts examined within 72 hours . . . . .	66%
No. contacts exposed to lesions . . . . .	309
No. prophylactically treated . . . . .	308
Percent prophylactically treated . . . . .	99.7%
No. contacts exposed within 90 days . . . . .	661
No. contacts prophylactically treated . . . . .	638
Percent prophylactically treated . . . . .	96%

The number of cases of venereal disease as reported by district is shown in Table II.

TABLE II — NUMBER OF CASES OF VENEREAL DISEASE REPORTED BY DISTRICT

District	Infectious Syphilis	Total Syphilis	Total Gonorrhea	Total Syphilis and Gonorrhea
Appalachia I . . . . .	12	43	911	954
Appalachia II . . . . .	43	118	2,652	2,770
Appalachia III . . . . .	21	71	895	966
Catawba . . . . .	10	28	1,118	1,146
Central Midlands . . . . .	66	135	4,671	4,806
Low Country . . . . .	31	99	495	594
Lower Savannah . . . . .	55	107	2,258	2,365
Pee Dee . . . . .	68	131	1,596	1,727
Trident . . . . .	116	253	3,485	3,738
Upper Savannah . . . . .	15	43	1,067	1,110
Waccamaw . . . . .	10	37	774	811
Wateree . . . . .	32	72	1,655	1,727
Institutions . . . . .	2	4		4
Not Stated . . . . .		1	18	19
Military . . . . .	32	60	490	550
Totals . . . . .	513	1,202	22,085	23,287

*Objective\**: To cause the number of cases of reported gonorrhea among civilians to be no greater than 5% more than reported in FY 75.

*Narrative*: Gonorrhea cases for the year were well within the projected increase with the year showing only a 200-case increase in the civilian sector. This amounts to less than a 1% increase from FY 75. Several factors contributed to this. Those areas where a long term casefinding program had been operating showed sizable decreases, as noted in the table above. These were slightly more than offset by the increases in treatment availability in other areas, chiefly Upper Savannah, Catawba, and Wateree. Additionally, there were approximately 1,200 more positive cultures among females in FY 76 than in FY 75.

The following table shows FY 76 activities relative to gonorrhea.

(\* Objective revised subsequent to publication of FY 76 Plan.)

TABLE III — ACTIVITIES RELATED TO GONORRHEA

No. Clinic Cases Reported — Males .....	10,027
No. Cases Interviewed — Males .....	5,890
Percent Cases Interviewed — Males .....	58.7%
No. Positive Cultures Among Females .....	9,426
No. Cases Treated — Females .....	9,148
Percent Females With Positive Culture Treated .....	97%

*Health Education*: The following activities were conducted by the Venereal Disease Control Staff, District Staffs and/or in conjunction with the Health Education Consultant, State Department of Education, in order to promote health education, including venereal disease education.

#### Activity

No. of Teacher Workshops held .....	9
No. of teachers trained .....	810
Schools with meaningful health education programs .....	200
No. of School Nurse classes .....	12
No. Public Health Nurse Workshops .....	6
No. Public Health Nurses trained .....	231
No. adult and community classes .....	415
No. persons attending .....	7,616
No. attending ETV Life Science (7th Grade) .....	19,601
No. educational items distributed .....	28,004

#### WIC PROJECT

*Problems*: There are an estimated 18,988 pregnant women, 22,025 infants, and 84,723 children under age five of low income in South Carolina in need of special supplemental foods in order to receive



essential nutrients in their diet during gestation, infancy, and pre-school age. Inadequate maternal nutrition may lead to infant mortality, birth defects, and impaired learning ability. Also, the early years of life are critical for the child in terms of mental and physical development.

Nutritional illiteracy can result in improper use of foods necessary for good health.

*Objective\**: To provide specific supplemental nutritious foods, as an adjunct to good health care, to pregnant and lactating women, infants, and children under five years of age who have been individually determined by competent professionals to be at nutritional risk. (Caseload of 28,145 by 4th Quarter.)

*Narrative*: During the year this project was expanded into two additional counties (Barnwell and Darlington) and 21,022 people were served, 1,964 more than in FY 75. However, the projected caseload of 28,145 was not met. The two principal reasons for this are: (1) lack of knowledge and acceptance of the WIC project as a health preventive measure by the various multidisciplinary personnel in the field, and (2) incomplete staffing in WIC projects.

The following table summarizes the pertinent figures applicable to this project.

(\* Revised subsequent to publication of FY 76 Plan.)

TABLE I — NUMBER PERSONS IN NEED,  
AUTHORIZED AND SERVED  
WIC PROJECT FY 76

Type Patient	No. In Need	No. Authorized	No. Served
Women . . . . .	18,988	4,222	2,705
Infants . . . . .	22,025	5,066	5,390
Children . . . . .	84,723	18,857	12,927
	125,736	28,145	21,022

On a statewide basis, the above table reflects that 22% of the target groups in need of special supplemental foods were authorized by the U. S. Department of Agriculture (USDA). However, of the number in need only 17% were served.

*Objective\**: To provide nutrition education to all pregnant and lactating women and to the parents or guardians of infants and children participating in the WIC program.

*Narrative*: This component of the WIC project was mandated by the USDA in February 1976. Of the participants in the project, only 12,243 were provided nutrition education. Reasons for this shortfall are: (1) Many of the projects simply did not meet the Federal requirements to

(\* This objective added subsequent to publication of FY 76 Plan.)

provide nutrition counseling to all WIC participants; (2) Incomplete documentation of nutrition education and reporting as required by USDA; (3) Difficulties in getting the nutrition education component of the project underway in mid-year; (4) Incomplete staffing of WIC projects.

## AIR QUALITY CONTROL

*Problems:* Some sources of air pollution have not attained compliance with standards. Others must be kept under surveillance to assure maintenance of standards. New sources may cause air pollution if uncontrolled. Nuisances such as open burning, odor, etc., require abatement.

Ambient air quality problem areas must be detected and defined. Present particulate matter emission standards may not be adequate to attain ambient air quality standards in one of the State's ten Air Quality Control Regions or to maintain standards in two of the ten regions.

New stationary source review and new hazardous pollutant standards, two recently promulgated federal programs, should be administered and controlled by the State.

*Objective:* To insure that approximately 1,500 new sources comply with State standards during FY 76; to insure that approximately 300 major existing sources attain or maintain compliance with State standards or are on an approved compliance schedule during FY 76; and to insure that approximately 2,784,000 citizens, 110 municipalities and 2,500 industrial and institutional sources comply with State open burning regulations; and that 2,500 industrial and institutional sources comply with State visible and fugitive emission regulations, and comply with South Carolina's undesirable levels prohibition.

*Narrative:* All known new sources of air pollution complied with state standards and regulations by obtaining the necessary construction and operating permits. A total of 1,654 permits were issued to new and existing sources, and all permit requests which were received were processed. Total permits issued exceeded the original projection (1,500) primarily due to applications for operating permits received from existing sources in response to a new state standard adopted late in FY 1975.

Inspections were completed on 811 sources during the year, and all known sources are presently in compliance with state standards, or are on an approved compliance schedule, with the exception of two federal facilities which are outside the jurisdiction of this agency. In addition to source inspections, 237 comprehensive source stack tests were performed to determine compliance with state standards.

Citizen complaints increased by 28% over FY 1975. A total of 809 complaints were received and investigated. The increase in complaints is believed to be due primarily to increased accessibility of air quality



control personnel. On July 1, 1975, the six former regional offices were expanded to eleven district offices.

*Objective:* To verify the maintenance of sulfur dioxide standards in the State's ten Air Quality Control Regions, and the attainment of particulate standards in all ten regions by July 1, 1975, as evidenced by air quality obtained during FY 76; and, to evaluate the adequacy of particulate emission standards as they apply to Charleston County and revise the standards, if necessary, by July 1, 1976.

*Narrative:* To verify attainment and continued maintenance of state standards, 20,852 analyses were performed on 13,055 samples collected from the statewide air quality monitoring network. Based on collected data, it has been determined that sulfur dioxide standards have continued to be maintained, and that particulate matter standards have been attained, in all ten of the state's Air Quality Control Regions.

As state standards were attained and/or maintained throughout the state during FY 1976, no revision of standards was necessary.

*Objective:* To develop two new programs for: (1) the control of hazardous pollutants and (2) new stationary sources by July 1, 1976.

*Narrative:* New program plans for the control of hazardous pollutants, new source performance standards and non-significant deterioration were completed during FY 1976 but these plans have not been reviewed and approved by the United States Environmental Protection Agency; early approval is anticipated.

*Activity Summary:* Activities accomplished in FY 76 are summarized below.

#### Activity

Permits Issued .....	1,654
Inspections — Major Sources .....	811
Source Evaluation Tests .....	237
Complaints Investigated .....	809
Air Quality Samples Collected .....	13,055
Air Quality Analyses .....	20,852

Activities increased in all areas over FY 75; this was primarily due to the fact that the bureau attained near optimum staffing for the first time in its existence. Eleven district offices were established and all vacancies were filled. Continued moderate growth is anticipated due to future Federally mandated programs. However, the accelerated growth of the past five years has peaked.

### DAIRY FOODS AND BOTTLED PRODUCTS

*Problem:* More than 476 million pounds of Grade A pasteurized milk and milk products were sold in South Carolina last year. Over 15,000,000 gallons of frozen dairy foods were processed and packaged by

South Carolina plants. In addition, frozen dairy food products are offered for sale in South Carolina that are processed in other states. When improperly handled or processed, these products can harbor disease producing organisms including streptococcus, staphylococcus, salmonella, brucellosis, tuberculosis, hepatitis, q-fever, viruses, etc. The presence of pesticides and antibiotics can create a toxic condition in humans. The consuming public must be protected against adulteration of dairy products by water, pesticides, antibiotics, and improper labeling. Inspections of farms and plants, along with product sampling, must be maintained to protect the public.

Approximately 1 billion soft drinks are bottled and/or canned in the state yearly. Routine inspections are needed to insure a product that is safe for the consuming public.

*Objective:* To conduct 1,991 inspections, issue permits as required, and suspend permits as needed to insure compliance in the following program areas:

Routine Inspection Programs	Facilities	Inspections
Dairy Farms .....	420	1,680
Pasteurization Plants .....	21	84
Ice Cream Plants .....	7	21
Distribution Stations .....	63	126
Single Service Container Plants .....	3	4
Soft Drink Plants .....	37	74
TOTALS .....	551	1,989

*Narrative:* All of the 420 dairies and the 21 plants operated at a Grade A level. Inspections were the primary activity undertaken to accomplish this objective. The number of inspections per farm and plant were down slightly but still above the legal minimum of 4 projected to maintain Grade A conditions. There was an increase in dairy farm permits suspended due to milk test results which is not readily explainable.

TABLE I — INSPECTION ACTIVITIES

#### Dairy Farms

Number of dairy farms .....	420
Number of routine inspections .....	2,048
Average number inspections/farm .....	4.9
Number of follow-up inspections .....	1,021
Average number follow-up inspections/farm .....	2.4
Number of permits revoked .....	18
Number of permits suspended due to test results of milk .....	86



**Pasteurization Plants**

Number of plants . . . . .	21
Number of routine inspections . . . . .	172
Average number inspections/plant . . . . .	8.2
Number of follow-up inspections . . . . .	134
Average number follow-up inspections/plant . . . . .	6.4
Number of permits suspended due to test results of milk . . . . .	30

The activities for frozen foods were as follows:

**TABLE II — ICE CREAM PLANT ACTIVITIES**

Number of plants permitted . . . . .	7
Number of routine inspections . . . . .	21
Average number inspections/plant . . . . .	3.0
Number of follow-up inspections . . . . .	39
Average number of follow-up inspections/plant . . . . .	5.6

There was a reduction in the number of inspections per frozen food plant for the year. There was also a decrease in the percent of violations of ice cream test results as shown in Table IV which shows a tendency of the plant operator to take the responsibility to do a better job.

The number of soft drink plants decreased again this year. It is still necessary to make more than the routine number of inspections due to complaints of foreign matter in drinks.

**TABLE III — SOFT DRINK PLANT ACTIVITIES**

Number of bottling plants permitted . . . . .	37
Number of routine inspections . . . . .	87
Average number inspections/plant . . . . .	2.4

The inspections of distribution stations were only 55% accomplished because of a shortage of travel funds. Available funds were allocated for travel to inspect other areas considered more important to the quality of milk products on the market shelf.

*Objective:* To collect 10,134 samples to be used in grading the plants inspected as follows:

<b>Routine Sampling Programs</b>	<b>Samples</b>
Dairy Farms . . . . .	6,000
Pasteurization Plants . . . . .	2,600
Ice Cream Plants . . . . .	1,500
Milk Containers . . . . .	34
Total . . . . .	10,134

*Narrative:* Extensive sampling activities, as seen in Table IV, were conducted during the year.

TABLE IV — SAMPLING ACTIVITIES

**Raw Milk**

Number of samples analyzed .....	8,503
Number of tests performed .....	42,515
Per cent of tests unsatisfactory .....	1.8%

**Pasteurized Milk**

Number of samples analyzed .....	3,476
Number of tests performed .....	27,808
Per cent of tests unsatisfactory .....	2.0%

**Ice Cream**

Number of samples analyzed .....	1,230
Number of tests performed .....	4,920
Per cent of tests unsatisfactory .....	4.9%

There was a decrease in per cent of tests unsatisfactory in the three areas reported: raw milk, pasteurized milk, and ice cream. During the year, 168,884 pounds of milk were disposed of. The disposal of this milk was due to either high standard plate count, high somatic cells, foreign matter, added water, antibiotics, or repeated inspection violations. In addition to the above, 58,000 pounds of milk not permitted for Grade A sale were sold for manufacturing milk purposes.

There has been an increase in farms shipping milk into, South Carolina. This, coupled with special samples for adulterated milk, caused the raw samples collected to be considerably above the planned figures. At the pasteurization plants, extra samples were taken for adulterated milk and for milk with high bacteria counts. The failure to meet the objective in samples from ice cream plants is a result of the inability of the central laboratory to handle those samples, together with the extra milk samples. This was partially overcome in the fourth quarter, but not enough to meet the year's objective.

**EMERGENCY HEALTH SERVICES**

*Problem:* Adequate plans, facilities and resources do not exist in all parts of the State to insure provision of medical care and preventive health measures, in event of disaster or emergency situations, for approximately 2.8 million citizens of this State, or any portion thereof. There is a lack of a sense of urgency in development and maintenance of adequate plans to cope with disasters and minimize loss of life and property and alleviate suffering.

*Objective:* To review the health portion of the Disaster Preparedness Plan in three counties.

*Narrative:* Health portions of three county plans were reviewed prior to publication for clarity of purpose and compatibility with known resources. With the advent of a new State Emergency Response Plan, the



majority of county and local plans will require revision and the number of plans to be reviewed each quarter will be increased to twelve.

*Objective:* To participate in on-site assistance activities in four counties.

*Narrative:* On-site assistance was provided in three counties. Edgefield County withdrew from the FY 76 schedule due to resignation of local civil defense director. This will be rescheduled when circumstances permit.

*Objective:* Promote medical self help training of 20,000 individuals.

*Narrative:* The Medical Self Help Training Program trained 13,446 individuals out of the 20,000 planned to be trained so that only 67% of the objective was met.

*Objective:* Inspect and inventory 12 packaged disaster hospitals.

*Narrative:* Fourteen packaged disaster hospitals were inspected during the year whereas twelve were planned. During the year four requests were received for relocation of hospitals because of lack of storage space. One has already been relocated and sites are being considered for the other three. A total of 6,600 disaster-type beds are available in the 35 packaged disaster hospitals in the state.

*Objective:* Establish procedures for coordinating rapid response to environmental emergency situations on an agency-wide basis during first quarter. Implementation of procedures beginning second quarter.

*Narrative:* Agency personnel responded to all environmental emergencies reported. Type incidents are indicated below:

Type	No.
Radiological health hazards .....	8
Air Pollution hazards .....	3
Water and Drainage hazards .....	175

The water and drainage hazards were as follows:

No. Incidents	Type	Amount
25 .....	Gasoline	31,408 gallons
106 .....	Oil	56,617 gallons
4 .....	Asphalt	13,303 gallons
40 .....	(Hazardous Substance	2,808,471 gallons
		(dye waste)
	(Hazardous Substance	190,101 pounds
	(Hazardous Substance	16 tons
	(Hazardous Substance	4,000 cubic yds.

175

Hazardous materials involved were identified as Latex, Butyl acrylate, Triethyl phosphate, Pyranol, Acetic acid, Perchlorethylene, chlorine, paint, textile dye, PCB's, aluminum oxide, nitric acid, ethylac-

rylate polymer, chloride, phosphorous trichlorides, sodium hydroxide, plywood glue, 10% ferric oxide, and cyclohexylamine.

## EMERGENCY MEDICAL SERVICES

*Problem:* Timely and properly administered primary medical aid is not always available to individuals, both transients and residents, in South Carolina who are injured or critically ill as a result of such situations as traffic mishaps; home, farm and recreational accidents; and sudden critical illnesses.

*Objective:* To assure that every ambulance service has a minimum communications system in compliance with standards.

*Narrative:* One hundred and sixty ambulance services were inspected and found in compliance with communication systems standards during FY 76. Delays in HEW funding coupled with delays in equipment delivery from manufacturers prevented an additional 40 services from attaining compliance as had been projected. Inspections were not done where equipment was unavoidably delayed.

*Objective:* To assure 400 emergency vehicles are in compliance with standards.

*Narrative:* The emergency vehicle inspection section of the division, hampered by a lack of personnel, completed inspections on 184 vehicles during FY 76 — the initial year of the program. Projected figures called for 400 inspections, but one full-time inspector was not funded until very late in FY 76.

*Objective:* To categorize 66 hospital emergency rooms.

*Narrative:* As projected, 66 hospital emergency services were categorized into four groups using the criteria developed by the Division of Emergency Medical Services (EMS) and the State EMS Advisory Council.

*Objective:* To train approximately 80 instructors to teach Emergency Medical Technicians (EMT's).

*Narrative:* Interest in training as EMT instructors ran below expectations and only 61 out of a projected 80 were trained. An assessment is being made to determine cause of the short-fall in class enrollment.

*Objective:* To certify approximately 1,500 EMT's after completion of basic and refresher training.

*Narrative:* The EMT training and certification continues to be highly successful with certification of 1,959 EMT's during FY 76 — 31% over projected certification. This was also 289 EMT's over FY 75. There appears to be strong commitment throughout the state to fulfill state standards for ambulance service personnel.

*Objective:* By June 30, 1976 to develop a plan for an automated data system (ADS) including inventory, response, and financial information.

*Narrative:* Progress has been slowed on developing an ADS Plan.



Problems have been encountered in determining data needs and methods of data collection and reaching agreement between data contributors and users.

*Objective:* To provide public information by 6 TV spots, 19 newspaper articles, and 10 seminars.

*Narrative:* The public information and education objective resulted in publication of 19 news articles and the conduct of 10 seminars. Four TV spots were provided in FY 76. Limited resources prevented provision of the additional two.

## FOOD PROTECTION

*Problem:* South Carolina's population has become increasingly mobile — resulting in one of every four persons, on the average, eating out each day. The present establishments, as well as the number of new and varied types of food serving and selling operations, present a multitude of potential foodborne disease outbreaks relating to handling, preparation, transportation and storage of food.

*Objective:* To insure that inspections are made, permits issued and necessary legal action taken to enforce rules and regulations in the following program areas:

Area	No. Facilities*	No. Inspections
Permanent Food Service		
Establishments .....	6,250	30,000
Temporary Food Service		
Establishments .....	325	1,900
Retail Markets .....	3,300	13,200
Vending Locations .....	850	1,000
TOTALS .....	10,725	46,100

(\* Does not include cities of Florence and Columbia.)

*Narrative:* The number of permitted permanent food service establishments increased again this year and all related activities, as shown below, also increased.

TABLE I — PERMANENT FOOD SERVICE ESTABLISHMENT ACTIVITIES

Type Activity	Number
Number establishments permitted .....	6,545
Number of inspections .....	31,085
Average number of inspections/establishment .....	4.7
Number plans reviewed .....	508

A total of 383 temporary food service permits were issued to establishments operating at fairs, carnivals and special events. This represents a slight increase from last year.

TABLE II — TEMPORARY FOOD SERVICE  
ESTABLISHMENT ACTIVITIES

Type Activity	Number
Number applications received .....	390
Number permits issued .....	383
Number permits denied .....	7
Number inspections .....	1,710

While there has been a significant reduction in the number of routine inspections this fiscal year, the amount of time being devoted by the districts to this segment of the Food Protection Program is on the increase.

The Retail Market Program has experienced substantial growth during the past year with 3,985 permitted retail markets in the state as compared with 3,290 markets on record at the end of FY 75. Routine market inspections have likewise increased from 12,990 inspections in FY 75 to 14,916 inspections in FY 76.

TABLE III — RETAIL MARKET ACTIVITIES

Type Activity	Number
Number of markets permitted .....	3,985
Number of inspections .....	14,916
Number of inspections/market .....	3.7

The inspection of vending activities, initiated in FY 75, is now well established with 830 of a projected 1,000 inspections completed. With district support, greater results are expected in the future.

*Objective:* To reduce each county's average demerit score for retail markets by 5% based on survey results.

*Narrative:* Retail Market establishments are surveyed bi-annually to evaluate the development of each county program and determine the applicable level of sanitation. The Retail Market Survey was conducted in FY 76, and the state average demerit score was 34.75 demerit points. This represents a favorable reduction of 4.00 demerit points (10% drop) from the FY 74 state average demerit score of 38.75. The improvement can be attributed to the increased emphasis which has been placed on the program in all districts during the past two years. Exceptional survey scores were achieved by the following counties:



County	FY 74	FY 76
York .....	35.27	22.07
Lancaster .....	36.13	22.67
Aiken .....	34.44	25.75
Union .....	41.13	26.36
Dillon .....	43.79	27.14

Counties showing the most improvement in demerit score reduction were:

Florence .....	20 point decrease
Dillon .....	17 point decrease
Abbeville .....	17 point decrease

Ten counties were unable to show any improvement in their average demerit scores from the FY 74 survey.

### GENERAL SANITATION

*Problem:* Health is affected by insanitary conditions associated with individual wastewater disposal systems (e.g., septic tanks), individual non-community water supplies, recreational facilities, ice plants, public accommodations, mobile home parks, day care/foster home facilities, and nuisances at private and public premises. Additionally, the threat of rabies is a potential health problem.

*Objective:* To conduct 20,245 inspections, issue permits as required and take legal action as necessary to insure compliance in the following program areas:

Routine Inspection Programs	Facilities	Inspections
Camps .....	205	615
Hotels/Motels .....	1,190	3,570
Mobile Home Parks .....	2,747	10,988
Schools .....	1,132	4,528
Ice Plants .....	30	120
Jails and Penal Institutions .....	106	424
TOTALS .....	5,410	20,245

*Narrative:* Elements of the program requiring routine inspections are indicated in Table I.

TABLE I — ELEMENTS REQUIRING ROUTINE INSPECTIONS

Element	No. Inspections
Camps .....	606
Hotels/Motels .....	2,005
Mobile Home Parks .....	8,998

Schools .....	2,888
Ice Plants .....	67
Jails and Penal Institutions .....	622
Totals .....	15,186

The increase in all routine inspection programs over FY 75 is attributed to closer monitoring, evaluation and supervision.

The apparent failure to make the planned number of inspections is attributed to two factors: (1) poor projection of the planned number of inspections, (2) increased requests for services in non-routine areas as noted below. Individuals in the field actually produced more inspections per man than planned, but the work was done in the non-routine areas.

*Objective:* Upon request to conduct inspections, collect samples and issue permits, and take any necessary legal action to insure compliance in an estimated 59,287 activities in the following program areas:

Non-Routine Inspection Programs	Estimated Service Requests
Subdivisions .....	1,155
Individual Wastewater .....	33,107
Individual Water Supplies	
Investigations .....	2,915
Samples Collected .....	463
Nuisance Complaints .....	12,827
Day Care/Foster Homes .....	2,121
Others* .....	6,699
Totals .....	59,287

(\* To meet local requirements)

*Narrative:* Non-routine inspection activities are shown in Table II.

TABLE II — NON-ROUTINE PROGRAM ACTIVITIES

	No. Inspections
Subdivisions .....	1,401
Individual Wastewater .....	65,254
Individual Water Supplies	
No. Inspections .....	906
No. Samples .....	2,644
Nuisance .....	15,564
Day Care/Foster Homes .....	2,083
Others .....	9,832
Totals .....	97,684

The passage of State Act 257, requiring electrical power suppliers to obtain a certificate from this agency of approved sewage disposal before



electrical service can be supplied, greatly increased the monitoring and control of the individual on-site wastewater program. Subdivision development was slowed somewhat due to the recession in economic conditions. A reduction from FY 75 in nuisance complaint investigations is attributed to efforts to validate service request reports prior to an investigation.

*Objective:* To protect the public from the possibility of rabies outbreaks during FY 76 by providing rabies immunization clinics.

*Narrative:* Elements of the rabies control program are indicated in Table III.

TABLE III — RABIES ACTIVITIES

Clinics promoted .....	1,034
Clinics held .....	697
Animals immunized .....	161,835
Rabies investigations .....	6,654
Animals quarantined .....	3,703
Heads submitted .....	569

The discrepancy between clinics held and clinics promoted is due to the methodology of statistical collection. All counties are not manually submitting monthly rabies reports.

## OCCUPATIONAL HEALTH

*Problem:* Approximately 1.2 million people in the 2.8 million population of South Carolina are in the work force. Of these, 980 thousand wage and salary workers are employed in about 42 thousand establishments affected by state and federal occupational health laws. Occupational health hazards assume many forms; however, most may be classified as chemical, biological, physical, or psychological and most are chronic rather than acute in nature. Major facets of the overall occupational health problem have been the widespread lack of awareness that occupational illnesses are preventable and the readiness to tolerate occupational health problems instead of providing assessment and seeking solutions.

*Objective:* During FY 1976 to assess occupational health hazards existing in 392 establishments in the public and private sectors in South Carolina employing 60,760 employees. These assessments will be made while performing 492 inspections under the following categories:

Accidents and fatalities (5 inspections, 5 plants, 775 employees)

Complaints from employees (50 inspections, 50 plants, 7,750 employees)

Target Health Hazard Program (150 inspections, 115 plants, 17,825 employees)

Carcinogens (50 inspections, 40 plants, 6,200 employees)  
 General schedule (237 inspections, 182 plants, 28,210 employees)

*Narrative:* Activities undertaken to determine compliance with standards are shown in Table I.

TABLE I — COMPLIANCE ACTIVITIES

Type Activity	
Compliance Investigations .....	390
Workers in these Establishments .....	67,254
Establishments in violation .....	170
No. of Violations .....	416
No. of Workers exposed to hazards .....	4,654
Field determinations .....	11,583
Samples collected .....	1,945
Percent of S. C. workforce receiving services .....	6.1%

More workers were evaluated for exposures than anticipated due to the size of the plants inspected during the third quarter. The average firm inspected during the third quarter had 248 employees as compared to an average of 209 employees during the other quarters of the fiscal year.

*Objective:* During FY 76 to provide assistance and advice to both public and private sectors regarding the technical and medical aspects of occupational health by:

Medical and Nursing consultation (60 visits, 60 establishments, 24,000 employees)

Technical consultation (72 visits, 60 establishments, 1,500 employees)

*Narrative:* There was a significant increase in the number of consultative visits conducted.

TABLE II — CONSULTIVE ACTIVITIES

Type Activity	Number
No. of visits .....	147
Medical and Nursing .....	46
Technical .....	101
No. of Recommendations .....	90
No. of workers .....	34,228
No. of field determinations .....	1,392
No. of samples collected .....	184

The increase in consultative visits is due to two factors: (1) greater emphasis on consultative activity by the Division, and (2) greater aware-



ness of occupational health problems by persons in the public and private sectors, as indicated by the increase in the number of requests for consultive services received during FY 76.

## PRODUCT SAFETY AND INJURY CONTROL

*Problems:* Accidents are the leading cause of death from 1-44 years of age in South Carolina, as well as being the fourth leading cause in all age groups. Each year many persons are injured by products used in and around the house, with some being permanently disabled and others killed. The economic and social cost is high.

The development of Product Safety and Injury Control programs in South Carolina is hindered by:

- The populace does not have adequate knowledge or awareness of the potential threats of injury due to hazardous conditions and products.

- The lack of a state consumer protection law that establishes comprehensive authority in any state agency covering all consumer products.

- The lack of environmental sanitation personnel in the county and district health departments that are available to become involved in Injury Control programs.

A large quantity of hazardous toys and poisonous products are on the market in South Carolina. Some have caused death among children.

*Objective:* During FY 76 to conduct a public information campaign designed to inform the people of South Carolina of accident problems and potentially hazardous products. Specifically to:

- Distribute 100,000 pieces of safety informational and educational materials.

- Provide eight safety news releases.

- Conduct at least 16 Danger House safety demonstrations.

- Provide three slide presentations and promote usage of visual aid material.

*Narrative:* Materials were developed and distributed with all objectives being exceeded. This consultative activity has been accepted by the public and demands for supplies and services have exceeded our available resources and manpower.

*Objective:* By end of 1st Quarter of FY 76, to prepare a draft Consumer Product Safety Bill for submittal through proper channels for approval during FY 76.

*Narrative:* The final draft of our proposed South Carolina Product Safety Bill was prepared and is presently pending legislative approval.

*Objective:* By end of 1st Quarter of FY 76, to have one person per health district actively involved in this consultative activity.

*Narrative:* Because of the increase in environmental sanitation activities in the county and district health departments, there is a lack of personnel that are available to become involved with product safety and injury control. Only eight of the twelve districts have a person specifically assigned to these activities.

## RADIOLOGICAL HEALTH

*Problem:* No threshold level has been established for permissible radiation exposure, thus any unnecessary exposure to radiation sources is to be prevented. Such prevention of unnecessary exposure extends to direct exposure from radiation sources and from indirect exposure through environmental pathways.

*Objective:* To conduct such activities as will insure that no citizen is subjected to unnecessary exposure to radiation. Specifically:

To collect an estimated 3,600 samples and perform an estimated 9,000 radionuclide analyses in order to insure that 5 existing and 7 proposed nuclear facilities and approximately 200 radioactive materials licensees comply with applicable regulations and in order to monitor environmental pathways of exposure.

To review an estimated 10 environmental impact statements, participate in an estimated 4 hearings, and review and comment upon an estimated 10 proposed sets of regulations potentially affecting the State's radiological health interest.

To conduct inspections, as indicated below, so as to enforce state regulations and licensing criteria for radioactive materials, x-ray machines, and non-ionizing sources.

Type License or Registration	No. to be Inspected
Radioactive materials .....	75
Current x-ray machines .....	420
Non-ionizing sources .....	75

To issue licenses, registrations, and amendments, as indicated below, so as to enforce state regulations and licensing criteria for radioactive materials, x-ray facilities, and x-ray machines.

Type License or Registration	No. Issued
Radioactive materials .....	24
X-Ray facilities .....	80
X-Ray machines .....	180
Amendments .....	120

*Narrative:* The surveillance activities outlined below are providing sufficient information to verify that radioactivity released to the environment and consequent radiation exposure of members of the public



are as low as practicable. Environmental sample collection was less than planned but more than that of FY 75. However, analyses performed were greater than FY 75 and greater than planned. In lieu of collecting samples, some in situ measurements were made in the field and potable drinking water samples were delivered to the laboratory for analyses.

#### TABLE I — ENVIRONMENTAL SURVEILLANCE ACTIVITIES

Environmental samples collected . . . . .	2,897
Radiological analyses performed . . . . .	9,430

Activities regarding environmental impact statements are shown in Table II.

#### TABLE II — ENVIRONMENTAL IMPACT REVIEW

No. environmental impact statements reviewed . . . . .	4
No. environmental hearings participated in . . . . .	4
No. proposed sets of environmental regulations reviewed . . . . .	25

The decrease from FY 75 in the number of Environmental Impact Statements reviewed is due to inaction at the federal level. A decision by the U. S. Nuclear Regulatory Commission with respect to mixed oxide fuel would significantly increase this number. This increase would be based on a favorable decision.

In order to accomplish the third portion of the objective, activities were as follows:

#### TABLE III — RADIOACTIVE MATERIALS, X-RAY, AND NON-IONIZING SOURCES INSPECTION ACTIVITIES

No. of Licenses inspected . . . . .	88
No. of follow-up inspections of Licenses . . . . .	2
No. of pre-licensing inspections of potential licenses . . . . .	18
No. of licensees in non-compliance . . . . .	62
No. of non-compliance items . . . . .	174
No. of x-ray facilities inspected . . . . .	246
No. of x-ray machines inspected . . . . .	366
No. of non-ionizing sources inspected . . . . .	15

Larger numbers of radioactive material licenses were inspected due to few inspections done during FY 75. Priority licenses were inspected, whereupon, non-compliance items are greater in numbers. A lesser number of x-ray machines were inspected than planned as a result of inspections conducted under contract with the U. S. Food and Drug Administration and a large number of County Health Departments being inspected. The deficiency in non-ionization sources inspections

resulted from deferring such inspections to items of greater priority.

X-ray registration and license amendments increased significantly during FY 76. Federal requirements on new x-ray equipment during FY 76 motivated many professions to acquire equipment prior to effective date. New radiopharmaceutical applications contributed to increase in license amendments. At the end of FY 76, there were a total number of 210 materials licenses, 1,356 x-ray facility registrations, and 2,508 x-ray machine registrations.

#### TABLE IV — LICENSING AND REGISTRATION ACTIVITIES

No. of materials licenses issued .....	20
No. of x-ray facilities registered .....	153
No. of x-ray machines registered .....	458
No. of amendments issued .....	206

*Objective:* To provide assistance to an estimated 190 requests from other agencies and from the general public in the area of radiological health in the form of technical assistance, emergency response, information, and training.

*Narrative:* During FY 76, eight transportation, radiological, and/or contamination incidents involving radioactive materials were responded to by Bureau personnel. Expansion in the nuclear industry probably accounts for this increase. Bureau personnel were also involved in training 653 persons (318 more than planned) in radiological emergency responses or radiological safety. A greater than anticipated demand resulted in exceeding planned training. Bureau personnel responded to 250 requests from the general public or other state agencies for technical assistance in the radiological health area. This greater than planned increase resulted primarily from the growing understanding and involvement of the general public in the nuclear power generation area. Approximately 10,000 informational bulletins were distributed to licensees, registrants, and other interested persons of the general public.

#### RECREATIONAL WATERS

*Problem:* Public swimming pools and supervised natural swimming areas serve an estimated 80,000 persons daily in season. Improper operation and maintenance of swimming facilities, as well as improper design and construction of swimming pools, can cause the transmission of diseases and infections.

*Objective:* To insure an anticipated 200 newly constructed public swimming facilities in South Carolina will meet design and construction standards.

*Narrative:* In order to accomplish this objective, central office personnel reviewed 116 plans and specifications and made 325 inspections



of completed projects. Activity regarding this objective is considerably less than that in FY 1975 and reflects the slow recovery of this segment of the economy after the recent recession.

All plans and specifications that were submitted were reviewed and either permitted or returned to the engineer/architect for needed corrections.

*Objective:* To insure an anticipated 85 modified public swimming facilities in South Carolina will meet design and construction standards.

*Narrative:* During the year, central office personnel reviewed 52 sets of plans and specifications and made 62 inspections of modified facilities. Most of the work was accomplished in the fourth quarter as activity picked up in anticipation of the new season.

As with new construction, modification work has been relatively slow to recover from the recession.

*Objective:* To insure proper operation and maintenance of approximately 1,600 public swimming facilities by a program of inspection and sample collection to determine chemically or bacteriologically unsafe water conditions.

*Narrative:* Operational inspections, and bacteriological samples analyzed, considerably exceeded the work done in FY 75. This resulted in part from the hiring of additional personnel and in part from favorable weather conditions during the season.

*Activity Summary:* Activities related to the aforementioned objectives were as follows:

#### **Activity**

Plans and specifications reviewed .....	116
No. construction inspections .....	325
No. operational inspections .....	17,470
No. bacteriological samples analyzed .....	16,519
Per cent of samples satisfactory .....	97%

### **SHELLFISH**

*Problem:* Shellfish are frequently eaten raw or partially cooked and can, if harvested from contaminated waters, transmit such waterborne diseases as hepatitis, typhoid, paratyphoid, and dysentery.

*Objective:* To prevent the harvesting for human consumption of any shellfish from contaminated waters.

*Narrative:* Sample collection, premise survey and patrolling were the primary activities undertaken to accomplish this objective. These activities were substantially accomplished as projected, with patrolling considerably exceeding that projected because of an increase in illegal harvesting activities that was detected.

Only three area reclassifications were accomplished because of: (1)

increased emphasis on patrolling; (2) one unfilled position; and, (3) patrolmen lost from regular duty to attend the criminal justice academy.

*Objective:* To insure that all plants which commercially process shellfish for human consumption comply with minimum health and environmental quality standards.

*Narrative:* Again this year the program had excellent cooperation from plant owners in monitoring sanitary conditions in plants. Ninety-four per cent of the plant inspections were rated satisfactory.

Plant inspections fell below the projected figures for reasons cited above.

*Activity Summary:* This year's activities are summarized as follows:

#### Activity

No. water samples collected . . . . .	1,121
No. premise surveys completed . . . . .	1,862
No. patrols conducted . . . . .	1,687
No. meat samples collected . . . . .	86
No. plant inspections . . . . .	168
No. satisfactory plant inspections . . . . .	158

### SOLID WASTE MANAGEMENT

*Problem:* The amount and types of solid waste generated increases proportionately with industrial, economic and population growth. The persistence of roadside litter and promiscuous dumps indicates that the waste generators are unconcerned or insufficiently motivated about proper waste collection and disposal methods. These situations give rise to economic losses through obvious channels and health problems through vector borne disease. Various materials requiring special handling, such as hospital waste, hazardous substances, waste pesticide and pesticide containers, have not been adequately addressed. There is growing concern as to the impact solid waste disposal sites are having on ground and surface water systems. There are numerous recurring operational problems with many of the permitted landfills. Recycling projects have had limited effectiveness and have not been ongoing.

*Objective:* By June 30, 1976, to properly close 252 promiscuous and open dumps in South Carolina.

*Narrative:* This objective was exceeded with a total of 262 dumps being closed.

*Objective:* To conduct 500 training contacts and 82 group information sessions relative to dispersing information on collection, storage, transfer and disposal of solid waste.

*Narrative:* Training contacts fell sharply in the fourth quarter because of a temporary shortage of heavy equipment personnel. However, 512 were conducted and the year's objective was slightly exceeded. An



added effort was made in the last half of the year to meet the group information session objective, but this effort was not enough to overcome a shortfall in the first six months' effort and only 50 were conducted during the year.

*Objective:* To initiate or coordinate 76 vector control projects directly related to solid waste management programs.

*Narrative:* The majority of the 78 vector control projects conducted were initiated to eliminate rats at open dumps and at landfills being closed. A few fly problems were encountered and dealt with satisfactorily.

Manpower was diverted from the group training sessions in order to work on a fly study during the second half of the year.

*Objective:* To insure that materials requiring special handling in approximately 400 industries obtain the appropriate attention before and during land disposal.

*Narrative:* This objective was largely accomplished through the survey/inspection of industries, industrial disposal facilities and hospitals. Additionally regulations were developed to govern the permitting of industrial collectors.

At the beginning of FY 76 central office personnel were conducting the industrial surveys and inspections. By mid FY 76 this objective was approximately 25 percent under the projection. Additional manpower was added by assigning quotas to all the District Solid Waste Consultants. Many of the consultants needed some training before they were able to conduct an industrial survey. The output for the year improved over the mid year accomplishments.

It was necessary to increase the number of inspections on industrial disposal facilities over the projections because of the types and composition of the industrial wastes being generated. The District Solid Waste Consultants were assigned the responsibility of inspecting the industrial disposal facilities. The overachievement is due to the need to increase these inspections.

The hospital survey was made to determine the quantities and types of wastes being generated by hospitals and health care centers.

The shortfall in the survey/inspection of industries resulted from a diversion of manpower to the industrial disposal facilities and the hospital survey. The regulations pertaining to permitting of industrial collectors have been continuously contested by the large haulers and pending a resolution of the impasse, effort was reduced in this activity.

*Objective:* To initiate approximately 10 gas and approximately 24 leachate sampling monitoring studies in the areas deemed appropriate.

*Narrative:* This objective was new for FY 76 and was one of the requirements of the EPA Solid Waste Grant. The gas and leachate monitoring well installations were delayed by a late date (November) of

awarding the grant. Further delays were encountered by a state freeze on purchases, travel restrictions and late deliveries of materials for construction of wells.

The objective for leachate sampling studies was essentially achieved. However, the gas studies fell short of the objective because construction at several pre-selected sites was indefinitely postponed at the request of county officials. Alternative sites will have to be selected.

*Objective:* To insure that permitted landfills are operated according to state regulations and, insofar as practical, intervene in accordance with good management practice.

*Narrative:* This objective was fulfilled through an inspection of each facility once a month.

*Objective:* To assist industries, municipalities, and groups of individuals in their efforts to recycle waste materials.

*Narrative:* Thirty-eight of a projected forty recycling projects were initiated during the year. This compares favorably to 35 accomplished in FY 1975.

*Activity Summary:* Activities accomplished in FY 76 are summarized below.

#### Activity

Dump closures .....	262
Vector control projects .....	78
Industries surveyed/inspected .....	318
Industrial disposal facilities inspected .....	406
Hospitals/institutions surveyed .....	238
Industrial collectors permitted .....	12
Gas studies initiated .....	5
Domestic leachate studies initiated .....	11
Industrial leachate studies initiated .....	11
Inspections of domestic disposal facilities .....	1,172
Recycling activities .....	38

### VECTOR CONTROL

*Problem:* Local Vector Control Programs, being restricted in size and scope, are unable to have or to get the specialized technical services and resources needed to function at optimal levels. Specific problems peculiar to each vector exist throughout the state in the areas of mosquito control, rodent control, tick-borne Rocky Mountain Spotted Fever, and flies.

*Objective:* To enable all approved local vector control programs to be allocated and/or purchase insecticides and rodenticides from the Division of Vector Control Warehouse.

*Narrative:* Malathion for mosquito control programs and warfarin for rodent control programs were made available as follows:



Malathion .....	12,500 gal.
Warfarin .....	14,256 lbs.

Budget cuts and cost increases resulted in less material being made available for local vector control programs.

*Objective:* To provide vector control equipment (trucks, sprayers, light traps, hand sprayers, etc.), equipment maintenance, and equipment repair to supplement local programs.

*Narrative:* Trucks, mosquito light traps, and hand larvicide cans were supplied to approved local mosquito control programs. There were 66 trucks, 59 mosquito light traps and 46 hand larvicide cans put into use. Efforts are being directed toward increasing the use of larviciding as a mosquito control measure.

*Objective:* To provide general vector information services including technical consultants for local programs, and for citizens of the state.

*Narrative:* Professional entomological services provide the information and guidance that enable local programs to get the best results from the resources available. These services help individuals and communities deal with complex pest problems effectively and efficiently. Professional entomological services were rendered throughout the state in response to 365 service requests. Appropriate responses were made to 473 requests for vector control technology and service, specialized information, and in the performance of publicity activities. These services were rendered for individuals, groups, communities, health departments, other public service units, and local control programs.

*Objective:* To develop and distribute informational-educational materials on vector control that may be used by citizens, public and private groups, and health departments.

*Narrative:* Educational and informational materials were developed and distributed. Eleven new items concerning vectors and their control were developed and distributed including public health pesticides book; a fly bulletin; fly training program packet; and pamphlets covering fleas, chiggers, earwigs, and vector control. These and other information items were distributed.

*Objective:* To develop and implement specific plans for resolution of problems related to mosquitoes, rodents, ticks, and flies.

*Narrative:* Professional entomological assistance and technical consultations were provided throughout the state. The vector borne disease action plan was updated. Pesticide certification for more than 200 public health workers was completed. Interagency cooperation continued. Activities included:

#### **Mosquitoes**

Summer Vector Control workers assigned .....	22
Spoil area dredging permits reviewed .....	214

Environmental impact statements reviewed .....	13
Mosquito Program Analyses prepared .....	5
Impoundment inspections .....	11

### Rodents

New Rodent programs started .....	3
Persons receiving rodent control training .....	46
Premises inspected .....	52
Rodent projects inspected .....	6
Rodent program analysis .....	1

### Ticks

Public education and information efforts concerning Rocky Mountain Spotted Fever (RMSF) were intensified.

Ticks tested .....	2,500*
S. C. RMSF cases .....	85*
S. C. RMSF deaths .....	4*

(\* Calendar Year 1975 Figures)

### Flies

Certificates of Registration were renewed for caged layer poultry farms. Twenty people received training about flies. There were 35 service requests involving flies handled. Limited research was done.

## WASTEWATER AND STREAM QUALITY CONTROL

*Problem:* Water quality is not uniform throughout the state. Reasons include: Inadequate treatment of wastes in many industrial, municipal and privately owned domestic waste systems as a result of inadequate design and/or inferior construction and materials; poor operation and maintenance including a lack in the number of properly qualified operating personnel.

Approximately 160 waste treatment systems per year are being designed, constructed and placed in operation, resulting in an ever-increasing volume of waste (8.0 mgd) being discharged to the waters of the State. Since the waste assimilative capacities of our waters are constant, it is obvious that effluent quality must also be increased in many situations.

Accidental dischargers of industrial plant chemicals and wastes, along with spills of petroleum products and chemicals, resulting from truck, train and shipping accidents, cause a temporary but serious degradation of water quality.

*Objective:* To insure that approximately 558 new systems to be installed in S. C. in FY 76, as well as improvements to upgrade existing



systems in accordance with compliance schedules to be in effect during the year, meet design and construction standards.

*Narrative:* Achievement of this objective required two principal activities: (1) plan and specification review, as well as permitting, at the central office level; (2) construction and final inspections at the district level. These activities relate to State Construction Permitting Requirements, in connection with which 1,166 engineering projects were reviewed. Permitting and inspection activities accomplished were as follows:

Total permits issued .....	(534)
New Systems Permitted .....	186
System modifications permitted .....	74
System expansions permitted .....	274
Construction inspections performed .....	807
Final inspections performed .....	518

Concurrently with the above, action was taken to review all grant applications, submitted under the provision of Section 201 of Public Law 92-500, a federal activity administered by the state. These include Step I facilities plans and related elements, Step II preparation of construction drawings and specifications, and Step III fabrication and building of treatment works. A significant number of the applications in each step concern cost overruns to cover situations not foreseen in the original grant application.

Activities accomplished in this area were as follows:

#### CONSTRUCTION GRANTS PROGRAM

Type Project	Projects Received	Projects Approved	Grants Awarded
Step I Grants			
Planning Grants .....	3	5	7
Cost Overruns .....	39	24	15
Step II Grants			
Design Grants .....	26	17	11
Cost Overruns .....	5	3	5
Step III Grants			
Construction Grants .....	15	16	21
Cost Overruns .....	9	17	12

A state construction permit is issued to each facility obtaining a Step III Construction Grant.

*Objective:* To insure that 708 waste treatment operations in S. C. are issued National Pollution Discharge Elimination Systems (NPDES) permits, requiring them to achieve certain levels of treatment and/or meet water quality standards, whichever is more stringent.

*Narrative:* Fiscal year 1976 was the first complete year in which the State had full permitting authority under the federal National Pollutant Discharge Elimination System (NPDES). With this authority the State assumed the responsibilities indicated in this objective and in the next three objectives.

Activities in support of this objective include drafting of permits for dischargers, issuance of permits, and review of change orders. At the beginning of the year, there were 649 permits projected for drafting and 531 permits projected for issuing. Both objectives were met, with those drafted exceeding the projected number by five per cent.

*Objective:* To initiate action to eliminate violations resulting from the permittee's or prospective permittee's failure to file the necessary application for NPDES permit, submit self-monitoring reports as required by the NPDES permit, comply with "effluent limitations" contained in the NPDES permit; and comply with the "schedule of compliance" contained in the NPDES permit.

*Narrative:* Central office personnel of the Compliance/Enforcement/NPDES Administration Division undertook the necessary action to accomplish this objective, and the succeeding two related objectives. These actions included development of a management information suspense system, continual monitoring of NPDES permit requirements to insure compliance, notification (by phone and in writing) to violators, scheduling of enforcement conferences, and taking of one or more appropriate enforcement actions (hearing, administrative orders, court action).

Normally, there is a 60-day waiting period from the time a permit is issued until the time that it is committed to the enforcement system and becomes subject to enforcement action. Each permit holder is required by law to submit monitoring reports at specified intervals identifying the degree of treatment being attained with the system. Failure to comply with the reporting procedures and failure to achieve specified levels of treatment can result in legal action. Each permit holder has an active file that is monitored daily for the requirements the permit places upon the facility. During the year there were 228 notices of violation sent out to permit holders for either violating effluent limitations, failure to submit monitoring reports, and/or violating compliance schedules.

At the beginning of the year there were approximately 153 facilities that had failed to apply for an NPDES permit as specified by law. Through field investigations and administrative actions this number was reduced during the year to 28 as of June 30, 1976. Many of these facilities were found to be exempt from the permit requirements for having a non-discharge system. Others were no longer in operation, having been tied on to a collection system of another facility. The remainder, if still in business, were issued an administrative directive to comply with the



requirements of the law. The remaining 28 are still pending and are currently under direction to comply. They will all be issued during the first quarter of FY 1977.

*Objective:* The NPDES Administration Section indicates that approximately 385 NPDES permits are to be issued next year. Eighty-five of the 385 should be issued within one month of the State's assumption of permitting authority. EPA indicates that approximately 55% of the permits issued result in some type of violation. Based on this information, the Enforcement Section should receive approximately 100 NPDES violations per year.

*Narrative:* Subsequent to the waiting period cited above enforcement actions are initiated when violations of the Pollution Control Act or implementing rules or regulations are brought to the attention of the agency. During FY 76, 503 NPDES permits have been committed to the enforcement system and means for monitoring all permit requirements have been established.

All state-permitted dischargers are continually monitored for permit violations and appropriate notice of violation is issued for significant violations of effluent limits and violation of compliance schedule dates. Those dischargers who have failed to comply with the initial notice have been issued an administrative order when deemed appropriate. Presently no court actions have been required for violations of NPDES permits.

Cumulative actions for NPDES violations are as follows:

#### Final Administrative Orders

NPDES Non-filers .....	28
Orders Resolved .....	26
NPDES permit violations .....	4
Orders Resolved .....	1
Administrative enforcement actions initiated .....	252
Administrative enforcement actions resolved .....	212

*Objective:* To initiate action to eliminate violations not regulated by NPDES requirements, such as violations concerning no-discharge facilities, and violations concerning collection systems.

*Narrative:* The Enforcement Section has continued to conduct activities in the area of non-NPDES enforcement actions. These violations include unauthorized discharges from collection system, construction permit violations on no-discharge and point source discharge treatment systems, and violations of the Water Classification Standard System which may or may not be associated with the NPDES permit program. Compliance surveys were requested this year on eight waste treatment facilities suspected of violation during FY 75. Thirty (30) facilities were sampled by monitoring personnel and the results were transmitted to the Enforcement Section for appropriate action. It was determined that

29 of the 30 surveys disclosed some type of violation. Only 26 of these were new violations. Appropriate enforcement action was taken as demonstrated in the cumulative summary below.

Cumulative actions for Non-NPDES violations were as follows:

Administrative Enforcement Actions Initiated .....	22
Administrative Enforcement Actions Resolved .....	37
Board Issued Final Administrative Orders .....	10
Board Issued Final Administrative Orders Resolved .....	10
Court Suits Initiated (non-NPDES) .....	7
Court Suits Resolved .....	4
Court Actions Initiated (including suits) .....	13

*Objective:* To perform Facility Evaluations on wastewater treatment plants.

*Narrative:* This objective was accomplished through the activities of district personnel who performed a total of 5,183 facility evaluations. As there are approximately 1,920 permitted waste treatment systems in the state, this represents approximately 2.7 evaluations per facility for the year, well above the recommended 1.5 evaluations. Based on the available manpower each person in the program evaluated 2.1 facilities per day.

These evaluations include those performed for EPA as a part of the overall federal Water Pollution Control Program. For the EPA, major and minor municipal dischargers, whose wastewater treatment systems were built with federal funds, are evaluated using EPA form 7500-5. The remaining evaluations fulfill state requirements. The following is a breakdown of the evaluations:

Type Evaluation	Number Performed
Federal (7500-5)	
Major municipal dischargers .....	163
Minor municipal dischargers .....	72
State .....	<u>4,948</u>
Total .....	5,183

It had been projected to complete 250 Federal (7500-5) evaluations with 189 major dischargers as based upon the major municipal discharge inventory list and 61 minor municipal dischargers. The number of minor discharge evaluations performed (72) is 18% greater than anticipated and the number of major evaluations (163) is 14% less. It was found during the year that the major discharge inventory list contained several facilities which were pending construction but had actually not been constructed, a few had been abandoned with their discharge being eliminated and still some listed that were not subject to evaluation as specified by the 7500-5 program. The originally projected figure of 189



was not adjusted to reflect these changes as it is a fixed number by definition.

As part of these facility evaluations, the facility sampling team provides valuable input to how well waste is being treated and to whether or not facilities are polluting their receiving waters. At the beginning of the year, it was projected that 308 facilities would be evaluated for possible compliance actions through sampling each to determine the degree of treatment being attained. Of this number planned there was actually 611 evaluated and sampled. Of these, 263 were sampled for other than NPDES permit compliance and 348 for compliance with NPDES effluent limitations.

Also related to facility evaluation is stream monitoring. Data collected from selected sampling points of the state's waters is used extensively by such programs as water supply and shellfish. It is used in compiling the annual 305(b) report to EPA; and, it is used in determining wasteload allocations for NPDES permit issuance, 201 application review, 208 areawide waste treatment planning review and preparations, and with 303(e) development. It also serves as an indicative tool to alert water treatment plants of possible problems occurring, or inoperative waste treatment plants when sudden deviations of trends develop. During the year there has been a total of 7,771 stream samples collected from a network of 657 stations.

It was originally planned to collect 9,101 stream samples. The 7,771 collected represents a deviation of 15% of those planned. Since stream sampling is only relative to program demands and secondary to compliance monitoring, this deviation is acceptable.

*Other Wastewater Activities:* Spills of oil and other hazardous materials represents a serious problem to the state and in many cases unreported spills and spills not acted upon can directly affect the health and welfare of those living within the area of the spill. During the year there occurred a total of 175 spills which were reported to the agency. This represents an increase of 22% above the preceding year. Agency personnel are directly involved with each and every spill reported and expend a total of 1,215 manhours with the supervision, clean-up, and investigation associated with them.

The number of reported fish kills is down 36% of those reported the preceding year. Reported complaints are 4% higher than last year.

The State completed all of EPA requirements for Phase I of Section 303(e) Basin Plans during the year by compiling and forwarding to EPA the Edisto-Combahee, Savannah, and Pee Dee Basin Plans. This completes the four required plans. Phase II was begun the second half of the year and will be incorporated along with Phase I into the 208 areawide plan being developed for the State. This plan, when developed, will become the State Continuous Planning Process to encompass a per-

petuating 20-year period for the control of Water Pollution in the state.

Assistance through contracts was given to the five designated areawide waste management planning 208 agencies during the year in order that their requirements under Section 208, PL 92-500 are met. These contracts are effective through FY 77 and into the first quarter of FY 78. The results of these five planning agencies will be incorporated into the overall State Plan that is jointly being developed.

*Activity Summary:* Activities related to the aforementioned objectives are shown below.

Activity	Number
Permits	
NPDES	
drafted .....	683
certified .....	N/A
issued—authority to issue was not	
granted until June 10, 1975 .....	535
State Construction issued .....	534
Army Corps of Engineers—reviews .....	412
Monitoring of Wastewater Treatment Facilities	
Federal Operations & Maintenance 7500-5 .....	235
Routine evaluations .....	4,948
Compliance evaluations .....	611
Stream Monitoring—samples collected and analyzed	
Primary Sampling Sites—(redefined FY 75) .....	2,658
Secondary Sampling Sites—	
(redefined FY 75) .....	5,113
Analyses performed on samples .....	13,740
Special Investigations	
Complaints investigated .....	350
Spills, Hazardous Materials, Oils, etc. ....	175
Fish Kills Investigated .....	33
Special Studies Conducted—IWQS .....	4
SPCC Investigations .....	144
Compliance and Enforcement	
Staff Compliance Actions .....	—
NPDES Permit Violation Actions .....	4
Actions Resolved .....	1
NPDES Permit Non-flier actions .....	28
Actions Resolved .....	26
NPDES Administrative Actions Initiated .....	252
NPDES Administrative Actions Resolved .....	212
Non-NPDES Administrative Actions Initiated ....	22
Non-NPDES Administrative Actions Resolved ....	37



Commission and Court Orders Issued .....	—
Final Administrative Orders Issued .....	10
Administrative Orders Revoked or Satisfied .....	10
Court Suits Initiated .....	7
Court Suits Resolved .....	4
Court Actions Initiated (including suits) .....	13
Planning	
303(e) Basin Plans .....	3
208 Areawide Waste Treatment Planning Grants .....	6
201 Construction Grants Program	
Step I—Facilities Planning Grants .....	7
Step II—Design Grants .....	11
Step III—Construction Grants .....	21
Cost Overruns .....	32

## WATER SUPPLY

*Problem:* An estimated 2.8 million residents plus 28.9 million tourists drink water from more than 2,700 public or semi-public water supply systems in South Carolina. New systems are constantly being built. Streams and aquifers used as water supply sources have finite capacities and can be rendered hazardous or unusable by contamination. Diseases which may be transmitted through drinking water include dysentery, hepatitis, typhoid, paratyphoid, leptospirosis, cholera, shigellosis, salmonellosis, etc. Many carcinogenic, toxic, and aesthetically or economically undesirable chemicals may be present in water.

*Objective:* To insure that all the designs for new water supply systems and modifications to existing systems submitted for review in FY 76, currently estimated to be 700 designs, meet acceptable design standards.

*Narrative:* The number of projects submitted for review in FY 76 did not exceed the FY 75 total as expected. The national economy declined and had an effect on the projects received, both on the number and on the size of the project. In FY 75, a total of 474 Permits to Construct were issued while 533 projects were submitted. In FY 76, 472 Permits to Construct were issued while 470 projects were submitted. The level of activity in plan review in FY 76 was the same as in FY 75. If the economy improves in FY 77, additional manpower may be necessary in order to raise the level of activity in plan review.

*Objective:* To insure that the water supply systems constructed during FY 76, currently estimated to be 625, meet all construction standards, plans and specifications requirements.

*Narrative:* The number of construction inspections increased from 581 in FY 75 to 673 while the number of projects completed increased from 205 in FY 75 to 237 in FY 76. This shows a definite increase in the

level of activity in inspections. Less than 60% of the construction inspections were satisfactory. The majority of the deficiencies were related to construction methods and not to material. All construction deficiencies were corrected before the project was permitted to operate. With the increased number of inspections, it is anticipated that the number of satisfactory inspections will increase in FY 77.

*Objective:* To insure that the anticipated 2,700 water supply systems in operation during FY 76 meet all standards of operation and maintenance (O & M) to provide safe, potable, and palatable water in sufficient quantity and quality.

*Narrative:* The number of routine O & M inspections conducted decreased from 2,605 in FY 75 to 1,557 in FY 76 while the number of water systems increased from 2,580 in FY 75 to 2,700 in FY 76. This has been attributed primarily to insufficient manpower in the districts to conduct the routine O & M inspections.

Some 30% of the systems did not have satisfactory O & M inspections. However the deficiencies found do not necessarily constitute a health hazard. Those systems with a deficiency that could constitute a health hazard were followed up. Frequently owners are reluctant to perform the necessary upgrading of a water system.

*Objective:* To insure that the water delivered to the public by the anticipated 2,700 water supply systems operating during FY 76 meets the necessary standards of quality, as established, through an effective water quality control program.

*Narrative:* This objective is met primarily through bacteriological monitoring, as well as chemical and fluoride analysis. Almost half of the chemical analyses were unsatisfactory. However, many were related to aesthetic parameters, rather than health parameters. Follow-up inspections were performed in health related cases.

*Objective:* To insure that water of acceptable quality is supplied during water supply emergencies occurring in FY 76.

*Narrative:* All 12 emergencies reported received a response. The manpower projected for emergency responses was more than actually needed.

*Objective:* To protect ground water resources from damage and/or contamination by public wells and waste disposal facilities to be designed in FY 76 and evaluate and minimize the damage from accidental spills of potential contaminants anticipated to occur during FY 76.

*Narrative:* Activities to protect the ground water resources were initiated in FY 76 and have proven to be not only necessary but successful as well. With the implementation of the Federal Safe Drinking Water Act, these activities are expected to be expanded. All 63 well designs submitted were reviewed for aquifer effect and 4 accidental spills were evaluated for aquifer effect. Over 300 public wells and geologic exposures were analyzed.



*Objective:* To insure that water supply systems which fail to meet approved standards in FY 76 are upgraded.

*Narrative:* Enforcement procedures were developed in FY 76. Seven enforcement conferences were held and corrective action resulted in four of the cases. The remaining 3 cases were referred to legal counsel for action. It is anticipated that, in FY 77, enforcement conferences will result in a higher percentage of corrective action and fewer cases will be referred to legal counsel.

### AIR QUALITY CONTROL STATUS OF ORDERS AND VARIANCES FY 1976

- 75-6-A Korn Industries, Inc., Sumter, South Carolina  
Order issued on December 12, 1976, for the violation of Section 15 of the S. C. Pollution Control Act of 1970 as amended; S. C. Air Pollution Regulation 2.6, Standard No. 2, Section I; and S. C. Air Pollution Control 2.6, Standard No. 5, Section VII. It was agreed that the company would construct and/or install emissions control system or systems to attain final compliance on or before March 1, 1977.
  
- 75-7-A S. C. Public Service Authority, Moncks Corner, S. C.  
Variance from S. C. Air Pollution Control Regulation 2.6, Standard No. 1, and 2, Section I. The authority shall be allowed under emergency conditions only, to operate their boilers above emission standards until March 1, 1977, provided the authority proceeds with its installation of additional emission control equipment.
  
- 76-1-A Metal Trades, Inc., Yorges Island, S. C.  
Order issued April 29, 1976, for the said existence of an undesirable level of particulate matter. The company shall submit within three months of this order its proposal for the reduction of any air pollution that might exist, together with any operational proposals or recommendations.

### WATER POLLUTION CONTROL ORDERS, FY 76

ORDER #75-6-W

DATE: July 9, 1975

RESPONDENT: McCord's Cattle Barn and Stockyard, Horry County

CONCLUSION OF LAW:

Respondent was found to be in violation of; (1) Section 13(a) of the

Pollution Control Act of South Carolina in that it was discharging wastewater into State waters in a manner other than in compliance with a permit issued by the Department, (2) Section III-3 of the Water Classification Standards System for the State of South Carolina in that it was discharging wastewater into State waters without treatment or control.

**ACTION:**

Respondent was ordered to construct adequate waste treatment facilities before November 11, 1975.

*ORDER #75-7-W (Consent)*

DATE: September 26, 1975

RESPONDENT: C. C. Rhodes Laundromat, Charleston County

**CONCLUSION OF LAW:**

Respondent was found to be in violation of Section 15 of the Pollution Control Act of South Carolina in that it was operating a waste disposal system in violation of the conditions of the permit to construct.

**ACTION:**

Respondent was ordered to submit an engineering report proposing plans for providing adequate treatment.

*ORDER #75-8-W*

DATE: September 1975

RESPONDENT: Northwood Estates Utilities, Inc., Charleston County

**CONCLUSION OF LAW:**

Respondent was found to be in violation of; (1) Section 13(a) of the Pollution Control Act of South Carolina in that it was intermittently discharging wastewater into State waters that caused a condition of pollution, (2) Section 15 of the Pollution Control Act in that it was operating a waste treatment facility in violation of the conditions of permit to construct, (3) Section III-3 of the Water Classification Standards System for the State of South Carolina in that it was intermittently discharging wastewater into State waters without treatment or control.

**ACTION:**

Respondent was ordered to; (1) take such action necessary to insure that its waste treatment facility was operated and maintained as efficiently as possible, (2) Submit a plan for accomplishing the above by October 15, 1975, (3) complete all proposed modifications by December 30, 1975.



*ORDER #75-9-W (Consent)*

DATE: September 24, 1975

RESPONDENT: Carolina Water Services, Inc., Mandal Hall S/D,  
Richland County

**CONCLUSION OF LAW:**

Respondent was found to be in violation of; (1) Section 15 of the Pollution Control Act of South Carolina in that it was operating a waste treatment facility in violation of the permit to construct, (2) Section III-3 of the Water Classification Standards System for the State of South Carolina in that its waste treatment facility was not providing secondary treatment, (3) Section IV of the Water Classification Standards System for the State of South Carolina in that effluent from the facility was contravening fecal coliform and dissolved oxygen standards in the receiving stream.

**ACTION:**

Respondent was ordered to; (1) submit a NPDES permit application within 30 days, (2) operate and maintain the waste treatment facility in a manner that will assure compliance with existing permit, (3) sample the facility and report on a monthly basis.

*ORDER #76-1-W*

DATE: January 20, 1976

RESPONDENT: Mountainbrook, Inc., Spartanburg County

**CONCLUSION OF LAW:**

Respondent was found to be in violation of Section 15 of the Pollution Control Act of South Carolina in that it was operating a waste disposal system in violation of the permit to construct.

**ACTION:**

Respondent was ordered to; (1) operate and maintain existing facility according to design criteria and (2) complete construction of an adequate waste treatment facility by March 15, 1977.

*ORDER #76-17-W*

DATE: February 11, 1976

RESPONDENT: Truluck Construction Company, Charleston County

**CONCLUSION OF LAW:**

Respondent was found to be in violation of; (1) Section 13(a) of the Pollution Control Act of South Carolina in that it was discharging wastewater into the environment in violation of NPDES Permit No.

SC0003956 and, (2) Section 15 of the Pollution Control Act of South Carolina in that it was operating a waste treatment facility in violation of NPDES Permit No. SC0003956.

**ACTION:**

Respondent was ordered to comply with the requirements of NPDES Permit No. SC0003956.

*ORDER #76-18-W (Consent)*

DATE: February 10, 1976

RESPONDENT: City of Cheraw, Chesterfield County

**CONCLUSION OF LAW:**

Respondent was found to be in violation of; (1) Section 13(a) of the Pollution Control Act of South Carolina in that it discharged wastewater from its collection lines without benefit of a permit issued by the Department and (2) Section III-3 of the Water Classification Standards System for the State of South Carolina in that it discharged wastewater from its collection lines without treatment or control.

**ACTION:**

Respondent was ordered to; (1) be enjoined from issuance of additional taps to collectors discharging into the Huckleberry Branch interceptor, (2) proceed with reasonable dispatch to repair the interceptor.

*ORDER #76-22-W*

DATE: March 29, 1976

RESPONDENT: Industrial Chemical Company, York County

**CONCLUSION OF LAW:**

Respondent was found to be in violation of; (1) Section 13(a) of the Pollution Control Act of South Carolina in that it discharged waste into the environment in violation of NPDES Permit No. SC0024112, and, (2) Section 15 of the Pollution Control Act of South Carolina in that it was operating a waste disposal system in violation of NPDES Permit No. SC0024112.

**ACTION:**

Respondent was ordered to comply with the requirements of NPDES Permit No. SC0024112.

*ORDER #76-23-W*

DATE: March 11, 1976

RESPONDENT: Hogan Cattle Feedlot, Richland County



**CONCLUSION OF LAW:**

Respondent was found to be in violation of; (1) Section 13(a) of the Pollution Control Act of South Carolina in that it discharges wastewater into State waters without benefit of a permit issued by the Department, (2) Section III-3 of the Water Classification Standards System for the State of South Carolina in that it was discharging wastewater into State waters without treatment or control.

**ACTION:**

Respondent was ordered to construct an adequate waste treatment facility by September 1, 1976.

**ORDER #76-28-W**

DATE: May 20, 1976

RESPONDENT: Indigo Company of Georgetown, Harmony Hills Mobile Home Park, Georgetown County

**CONCLUSION OF LAW:**

Respondent was found to be in violation of; (1) Section 13(a) of the Pollution Control Act of South Carolina in that it was discharging wastewater into State waters in violation of NPDES Permit No. SC0028711, and (2) Section 15 of the Pollution Control Act of South Carolina in that it was operating a waste treatment facility in violation of NPDES Permit No. SC0028711.

**ACTION:**

Respondent was ordered to comply with the requirements of NPDES Permit No. SC0028711.

**ORDER #76-32-W (Consent)**

DATE: June 24, 1976

RESPONDENT: Community Properties, Inc., Rustic Estates, Greenville County

**CONCLUSION OF LAW:**

None given.

**ACTION:**

Respondent was ordered to, (1) take the necessary action to prevent further discharge of untreated wastewater and (2) complete construction of required lift station no later than six months from the date of this Order.

## ORDERS RESCINDED DURING FY 76

*ORDER #74-12-W*

DATE: September 2, 1975

RESPONDENT: Hopkins Laundromat, Richland County

*ORDER #73-42-W*

DATE: September 2, 1975

RESPONDENT: Harvey's Restaurant, Pickens County

*ORDER #72-8-W*

DATE: September 2, 1975

RESPONDENT: Lakeview Trailer Park, Spartanburg County

*ORDER #75-4-W*

DATE: April 8, 1975

RESPONDENT: Mullinax Hog Farm, Anderson County

*ORDER #73-10-W*

DATE: February 20, 1976

RESPONDENT: Hardwick Chemical Company, Kershaw County

*ORDER #73-33-W*

DATE: February 20, 1976

RESPONDENT: Bommer Spring Hinge Company, Spartanburg County

*ORDER #73-25-W*

DATE: March 22, 1976

RESPONDENT: Town of Landrum, Spartanburg County

*ORDER #71-4-W*

DATE: March 22, 1976

RESPONDENT: Westvaco Corporation, Charleston County



## NPDES PERMITS

The following orders were issued requiring Respondents to apply for a NPDES permit.

## CONCLUSION OF LAW:

Respondents were found to be in violation of; (1) Section 13(a) of the Pollution Control Act of South Carolina in that they were discharging wastewater into State waters without having been issued the appropriate permit by the Department and (2) Section 15(3) of the Pollution Control Act in that they were operating a waste disposal system without a permit to discharge.

## ACTION:

Respondents were ordered to submit a NPDES permit application within 30 days of receipt of the order.

*ORDER #75-10-W*

DATE: December 4, 1975

RESPONDENT: Dunmovin Utilities, Inc., Charleston County

*ORDER #75-11-W*

DATE: December 9, 1976

RESPONDENT: Mountainbrook, Inc., Spartanburg County

*ORDER #75-13-W*

DATE: December 22, 1975

RESPONDENT: Mr. Karl Sutker, Pleasant Acres Trailer Park, Beaufort County

*ORDER #75-14-W*

DATE: December 22, 1975

RESPONDENT: National Holding Company, Inc., Farrow Hills Subdivision, Richland County

*ORDER #75-15-W*

DATE: December 29, 1975

RESPONDENT: Farrow Terrace Utility Company, Inc., Farrow Terrace Subdivision, Richland County

*ORDER #75-16-W*

DATE: December 29, 1975

RESPONDENT: Mr. Rossie Furguson, Meadowbrook Subdivision,  
Spartanburg County

*ORDER #76-3-W*

DATE: January 2, 1976

RESPONDENT: Farrow Terrace Utility Company, Inc., Highland  
Forest Subdivision, Richland County

*ORDER #76-4-W*

DATE: January 2, 1976

RESPONDENT: Southeastern Diversified Investment Company, Er-  
mine Mobile Home Estates II, Lexington County

*ORDER #76-5-W*

DATE: January 2, 1976

RESPONDENT: Farrow Terrace Utility Company, Inc., Greenview  
Subdivision, Richland County

*ORDER #76-6-W*

DATE: January 2, 1976

RESPONDENT: Trolley Enterprises, Inc., Millwood Subdivision,  
Dorchester County

*ORDER #76-7-W*

DATE: January 2, 1976

RESPONDENT: Trolley Enterprises, Inc., Rose Hill Subdivision,  
Dorchester County

*ORDER #76-8-W*

DATE: January 2, 1976

RESPONDENT: Trolley Enterprises, Inc., Woodlawn Subdivision,  
Dorchester County

*ORDER #76-9-W*

DATE: January 16, 1976

RESPONDENT: Aqua Company, Inc., Elm Village Trailer Park,  
Berkeley County

*ORDER #76-10-W*

DATE: January 16, 1976



RESPONDENT: The Crescent Company of Spartanburg, Inc., Linville Hills Subdivision, Spartanburg County

*ORDER #76-11-W*

DATE: January 16, 1976

RESPONDENT: Dorchester Land Development Corporation, Oakdale Subdivision, Dorchester County

*ORDER #76-13-W*

DATE: January 22, 1976

RESPONDENT: Detyens Shipyard, Inc., Charleston County

*ORDER #76-14-W*

DATE: February 3, 1976

RESPONDENT: Sunset Lagoon Company, Inc., Knollwood Subdivision, Richland County

*ORDER #76-15-W*

DATE: February 5, 1976

RESPONDENT: Greengate Utilities, Inc., Greengate Subdivision, Richland County

*ORDER #76-16-W*

DATE: February 5, 1976

RESPONDENT: Hallbrook Apartments, Richland County

*ORDER #76-19-W*

DATE: February 18, 1976

RESPONDENT: Pine Forest Utilities, Inc., Pine Forest Subdivision, Richland County

*ORDER #76-20-W*

DATE: February 18, 1976

RESPONDENT: Lakewood Mobile Home Park, Inc., Richland County

*ORDER #76-21-W*

DATE: February 25, 1976

RESPONDENT: Rivermont, Inc., Richland County

ORDER #76-23-W

DATE: April 6, 1976

RESPONDENT: J. D. Hollingsworth on Wheels, Inc., Greenville County

ORDER #76-24-W

DATE: April 20, 1976

RESPONDENT: Kemmerlin Meats, Inc., Orangeburg County

ORDER #76-25-W

DATE: May 17, 1976

RESPONDENT: American Car Wash, Beaufort County

ORDER #76-26-W

DATE: May 17, 1976

RESPONDENT: Tansi Village, Inc., Beaufort County

ORDER #76-27-W

DATE: May 17, 1976

RESPONDENT: Mr. Mal Fender, Poplar Creek Landing, Calhoun County

ORDER #76-29-W

DATE: June 1, 1976

RESPONDENT: Crown Central Petroleum Corporation, Crown Service Station SE-83, Greenville County

ORDER #76-30-W

DATE: June 1, 1976

RESPONDENT: Piedmont Industrial Park, Greenville County

ORDER #76-31-W

DATE: June 1, 1976

RESPONDENT: Nienow Plaza, Sumter County



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- Update Magazine, Winter 1976, Volume 6, Number 1
- Update Magazine, Spring 1976, Volume 6, Number 2
- Update Magazine, Summer 1976, Volume 6, Number 3

*Emergency Medical Services*

- Emergency Medical Technician (EMT) Training Program; Course Guide for Coordinators and Instructors (Revision)
- Refresher Training Program for EMTs.
- MAST Program: Procedural Guide and Plan (Revision)

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- Domestic Fly Facts (12 pages)
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- McLeod, Walton J. III, Randolph R. Mahan, and James E. Brookshire. Environmental Quality Law — A South Carolina Casebook August 1975

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- Employee Health Service Procedures and Standing Orders (DHEC)
- Emergency Health Services Annex (B-8) to S. C. Emergency Response Plan
- Job Health Newsletter, issues #1 and 2, July and December, 1975
- An Epidemiological Study of Blood Pressure, Blood Sugar and

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